

Wellesley High School Feasibility Concept Study

Wellesley, Massachusetts



June 7, 2007

Fit Test Checklist



Wellesley High School

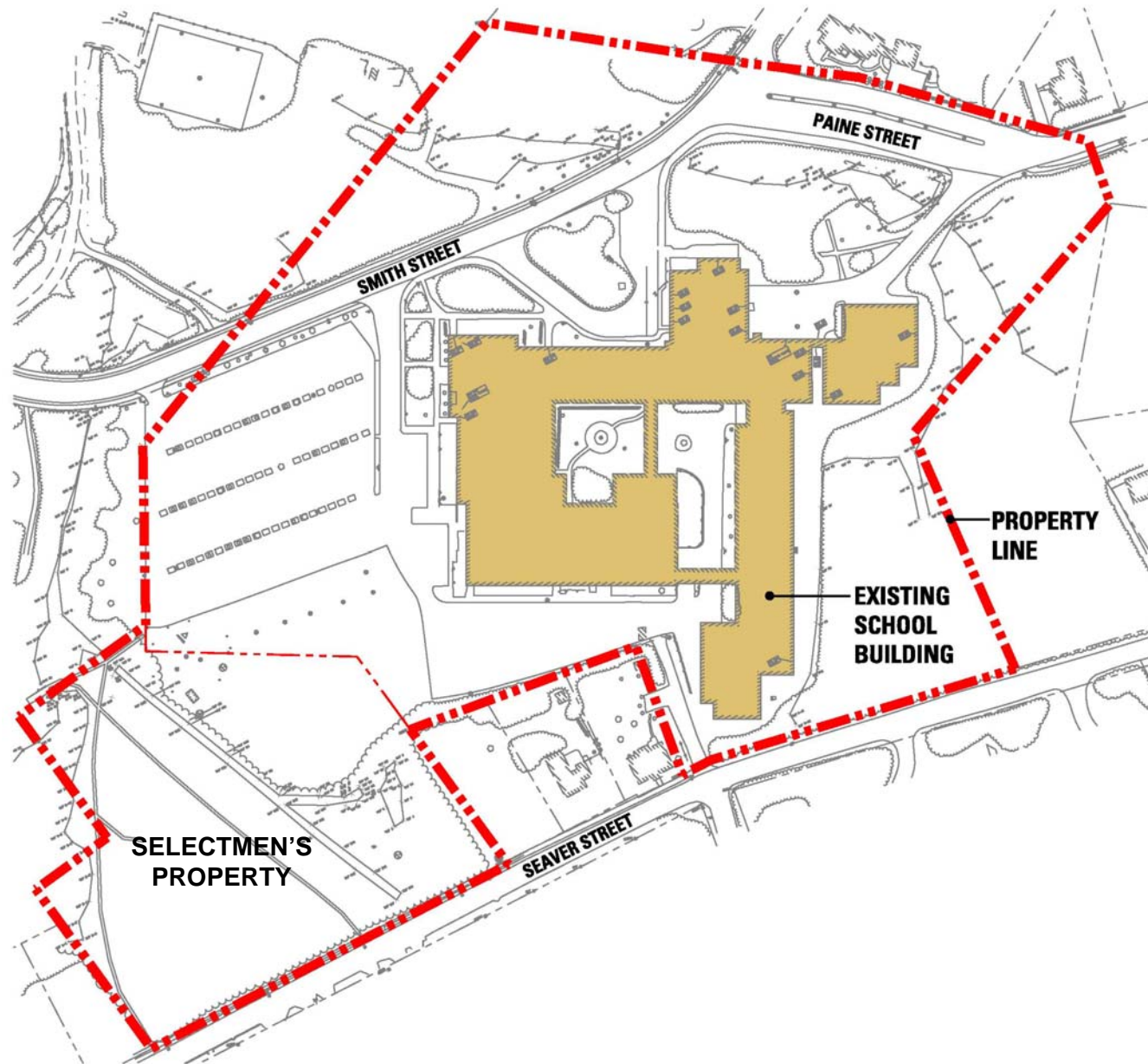
Please note: This checklist is to help you follow the outline of each fit test presentation and help you track how well each test addresses the important elements listed below. This form is for your personal use or can be handed in with your comments.

Fit Test Studies – Tracking/Checklist		Fit Test C	Fit Test D.1	Fit Test F	Fit Test E.1	Fit Test G	Remarks
SITE	Building integration with site						
	Reuse of the 1938 structure	Y	Y				
	Reuse of other structures	Y					1956 Classroom Wing
	Use of Selectmen's Parcel						
	Safely separates cars & pedestrians						
	Sufficient parking (surface)	280 75	320	320	350	320	Option C has surface and parking garage
	Open space – landscape & student use						
	Scaled for the neighborhood						
EDUCATION/PROGRAM	Addresses programmatic needs						
	Program adjacencies						
	Community space						
	Building expandability						
	Impact on students & faculty						
	Construction phases (1, 2, 3...)						
	Construction duration (years)	4 Years 7 Months	5 Years 4 Months	4 Years 6 Months	4 Years	5 Years 6 Months	
	Need for temporary facilities						
BUILDING/CONSTRUCTION	Athletics	Y					
	Cafeteria	Y					
	Classrooms						
	Performing Arts		Y				Uses Lecture Hall/Drama space for one school year
	High-performance/"green" concepts						
	Innovative planning ideas						
	Comparative construction costs	2	3	4	5	1	Ranked 1 (highest) to 5 (lowest).

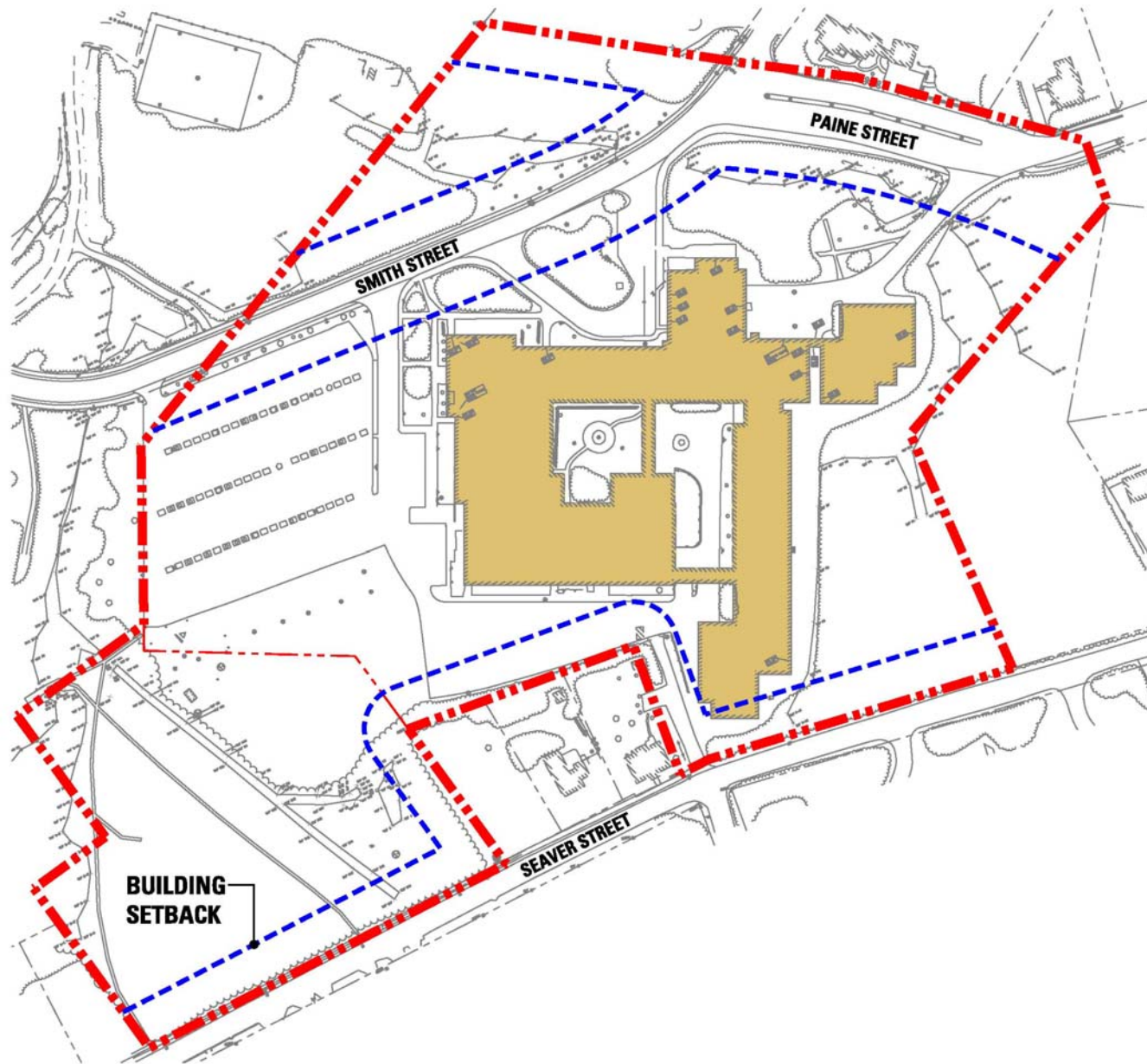
Additional Comments:

Name: _____ Date: _____

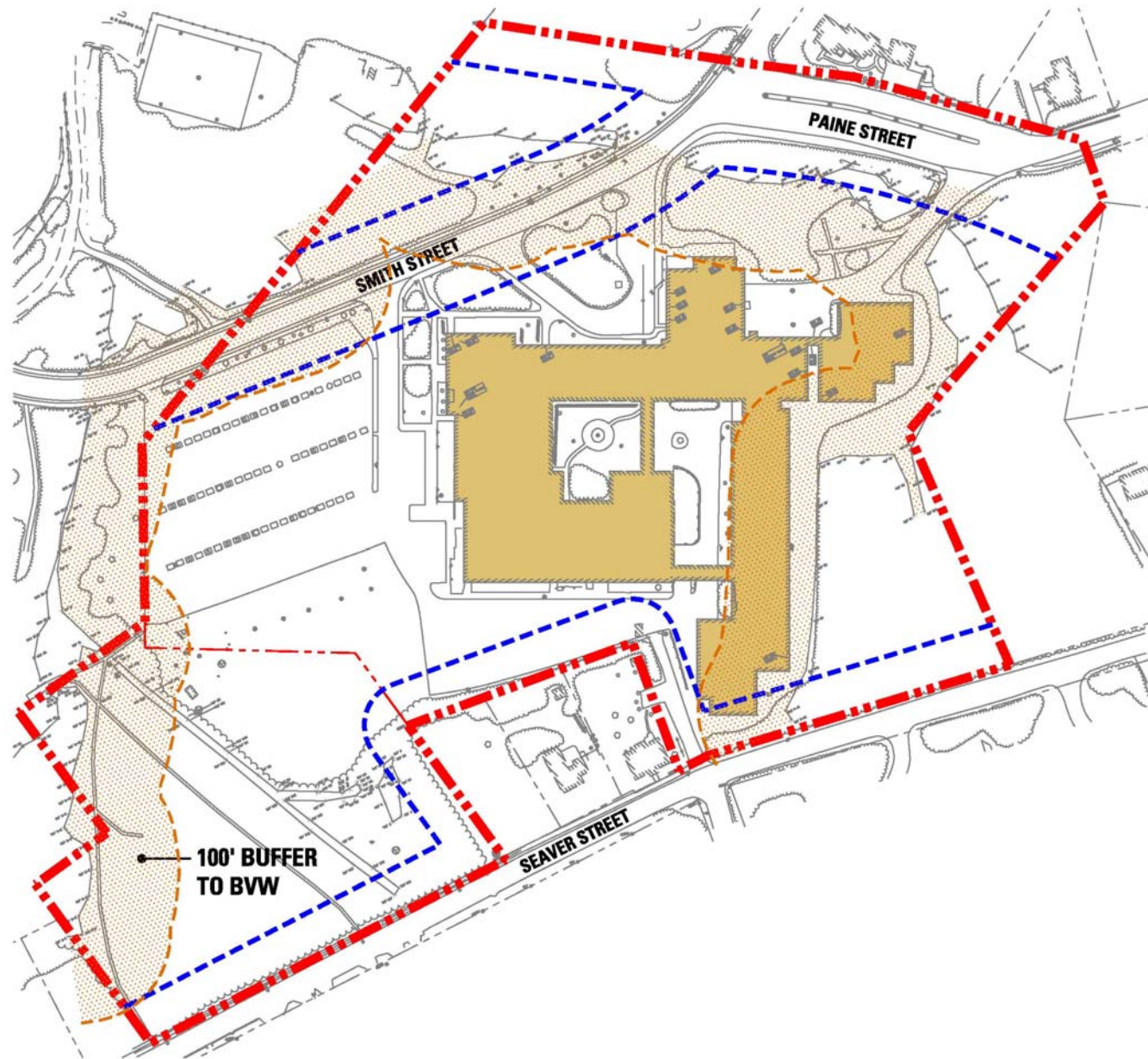
Wellesley High School Existing Conditions



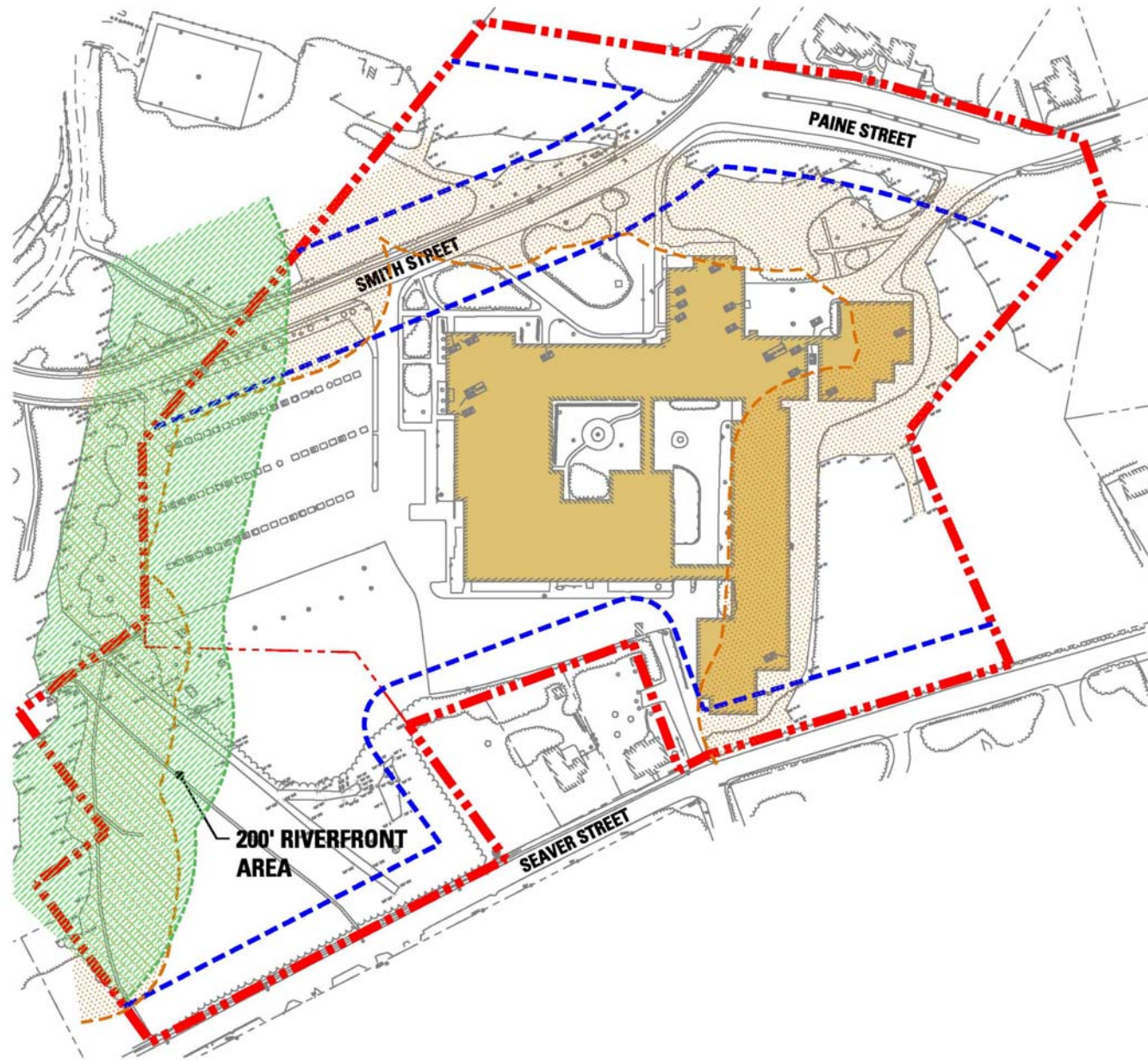
WHS Existing Conditions Plus Setbacks



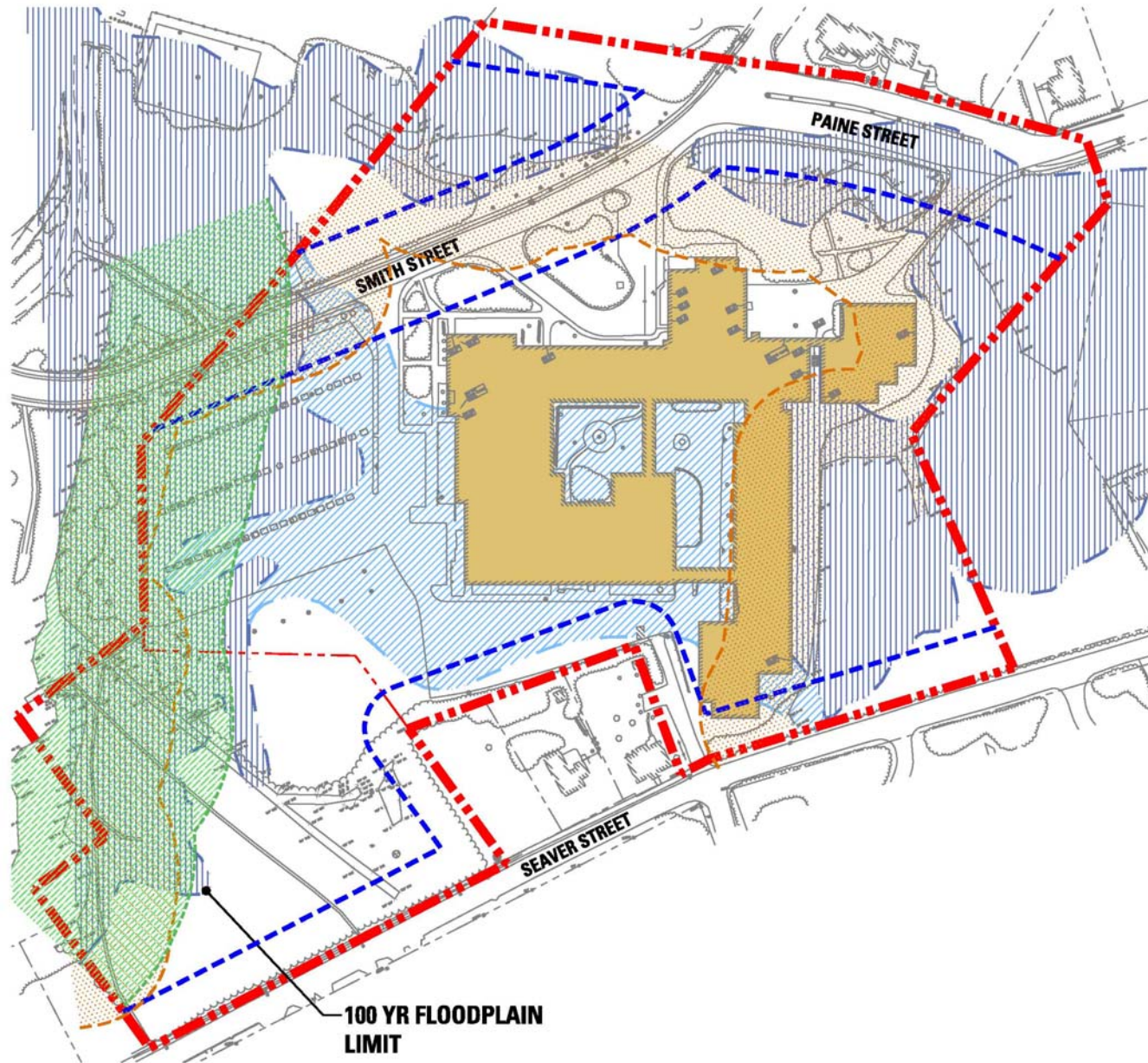
WHS Existing Conditions Plus BVW Buffer



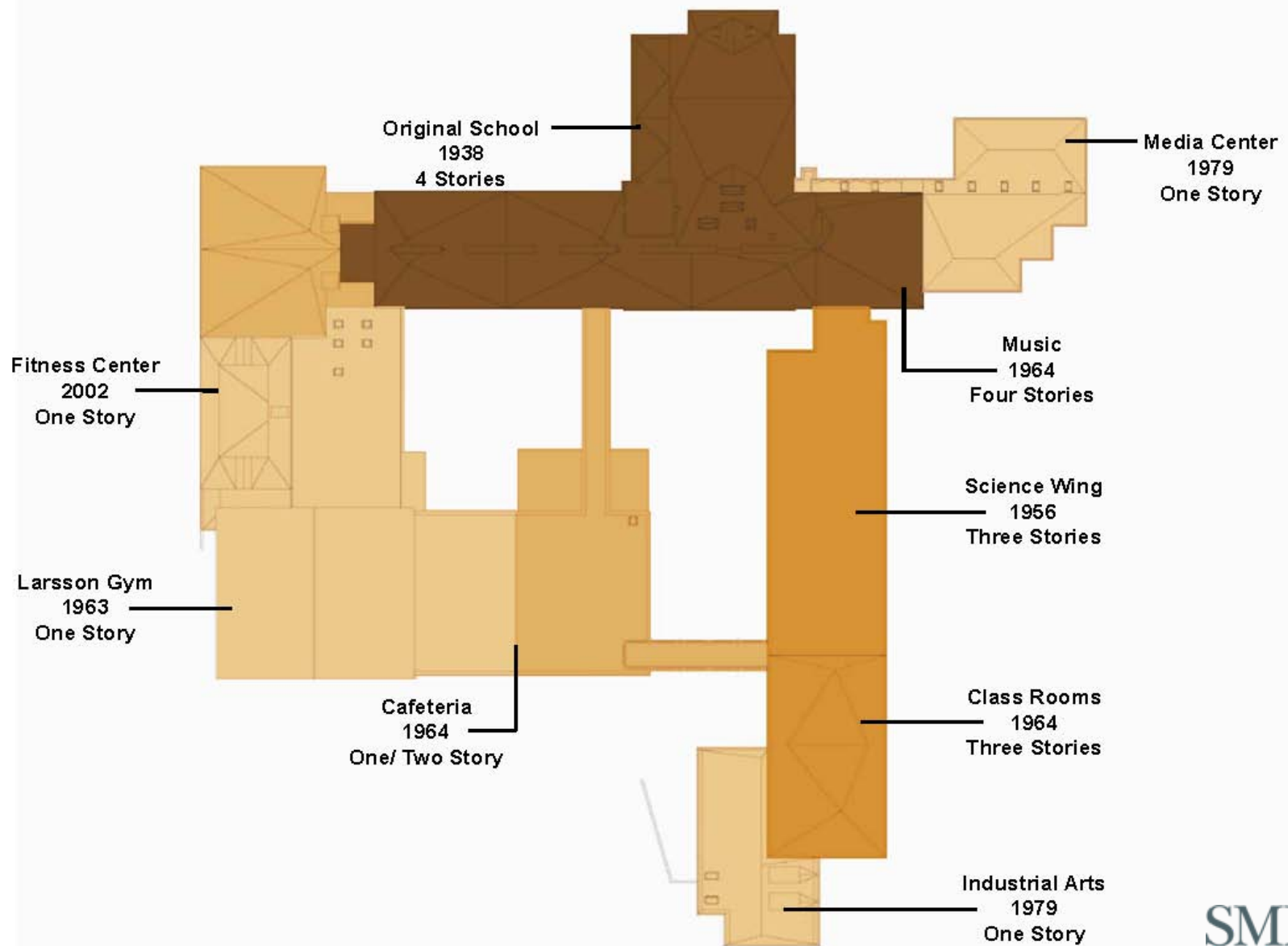
WHS Existing Conditions Plus Riverfront Area

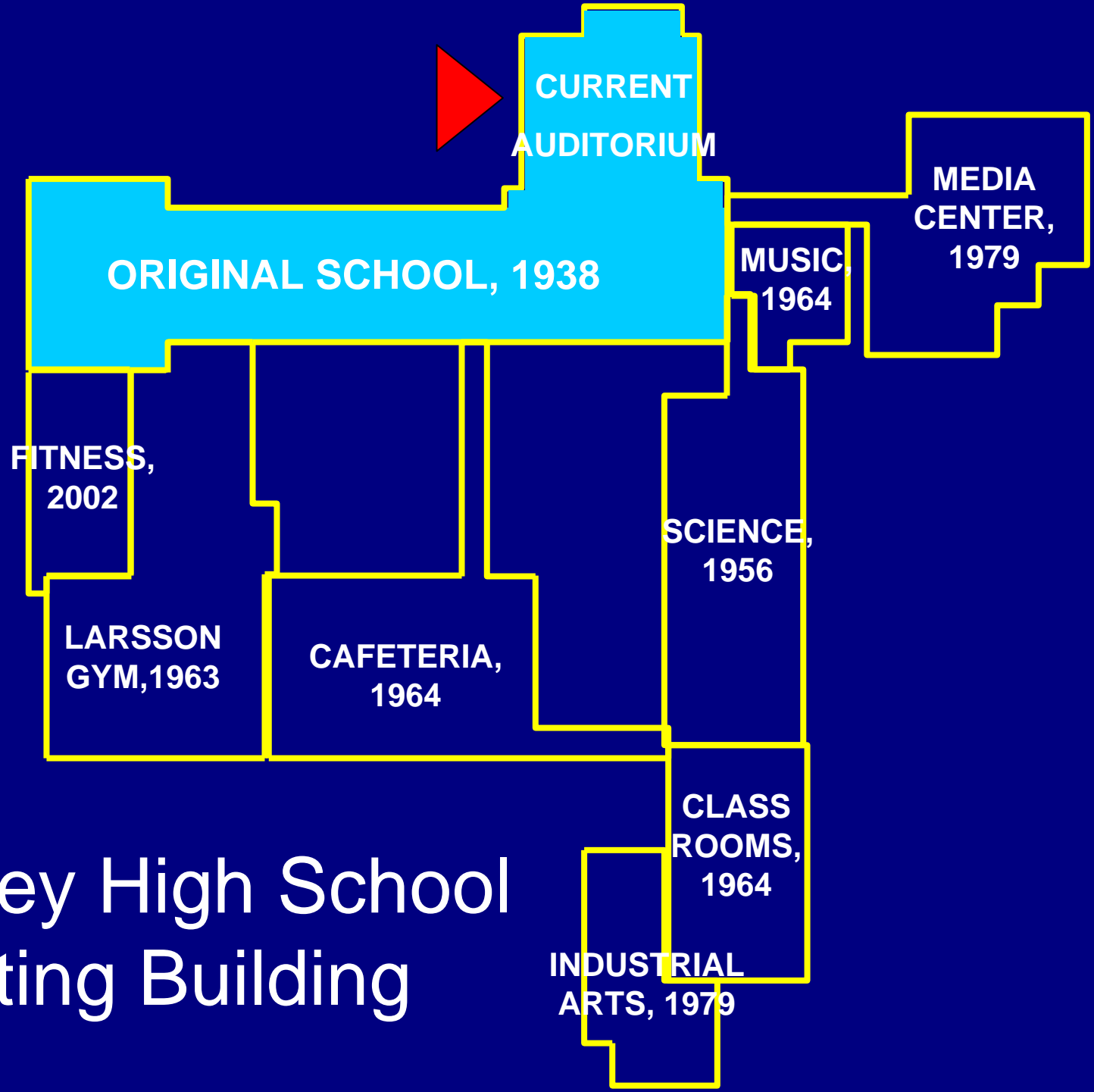


Option C: Existing Conditions Plus Floodplain



Existing Building





Wellesley High School
Existing Building

Test Fit Planning Options



Option C



Option D.1



Option F



Option E



Option E.1



Option G

Option C



[illegible][illegible][illegible][illegible]

SMMA
STYMER MAINI & MCKEE ASSOCIATES

Option C Program

LEGEND	PROGRAM AREA	NET SQUARE FEET	OPTION C	Delta
	Science	16,500	16,500	
	Teacher Support	9,600	10,000	400
	House Admin/Student Services	4,275	4,725	450
	English	13,025	13,025	
	Social Studies	12,000	12,100	100
	Mathematics	12,200	10,800	(1,400) (100) per CR
	Classical & Modern Languages	10,300	9,785	(515) (50) per CR
	Flex Classrooms	7,000	7,800	800
	Technology/Engineering	8,400	8,400	
	Family & Consumer Science	6,300	6,400	100
	Art	7,850	10,025	2,175
	Performing Arts	11,550	13,500	1,950
	Auditorium	11,400	11,400	
	Special Education	8,650	8,650	
	Fitness and Health	44,000	44,000	
	Library	9,450	9,450	
	Cafeteria/Student Union	16,400	16,400	
	Large Group Instruction	0	0	
	Administration Suite	2,700	4,450	5,850
	Guidance/Student Support	950		
	Nurses Office	800		
	Custodial	2,750	Available	
	Contingent Spaces	3,000		
	Other Spaces	240	Available	
	Non-School Spaces	2,900	TBD	
TOTAL NET		222,240	218,535	
TOTAL GROSS (without garage)		317,898	335,800	

Architectural floor plan of a school building. The plan includes the following rooms and areas:

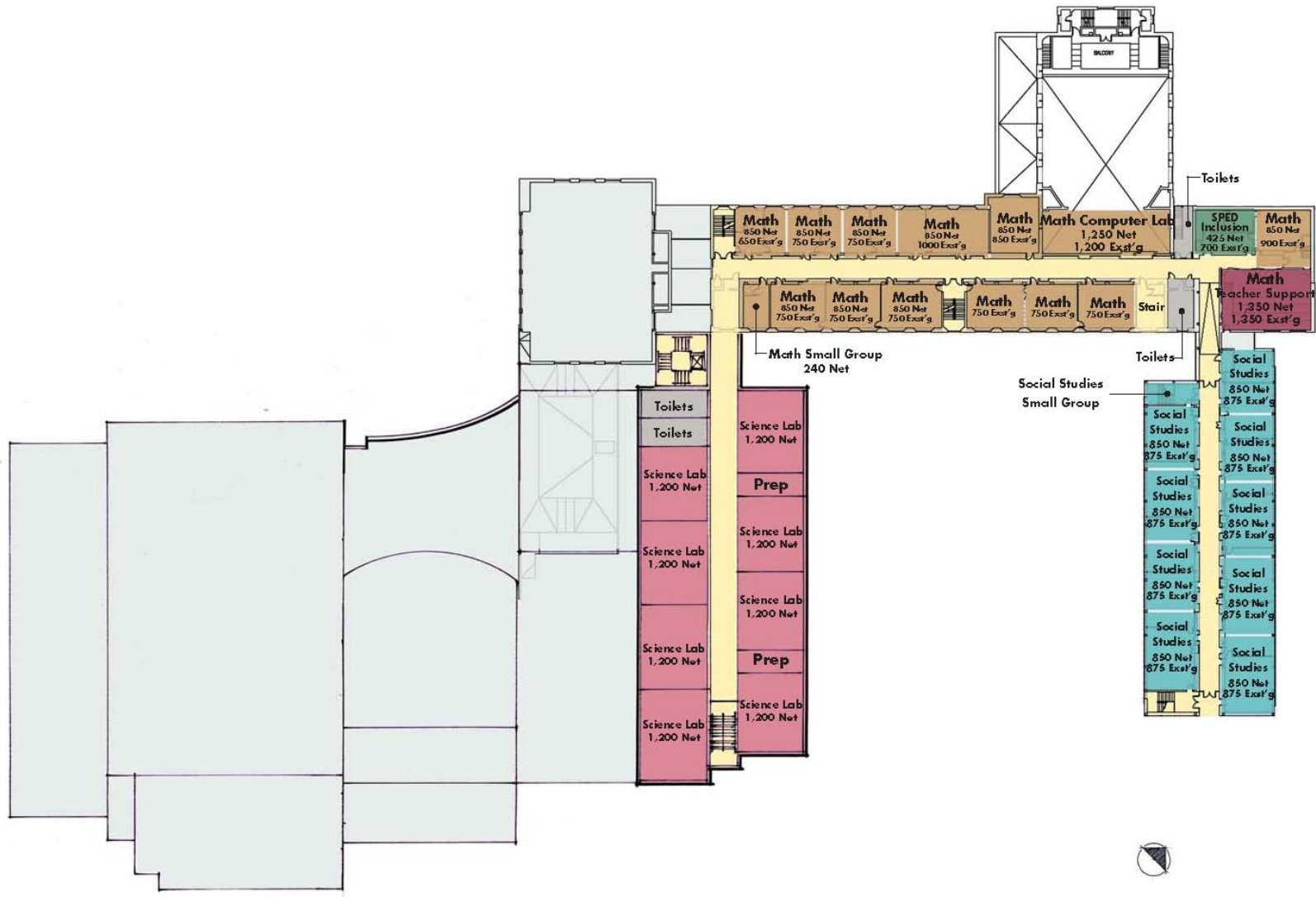
- Administration:** 2,700 Net
- Guidance:** 950 Net
- Nurse:** 800 Net, 5,850 Exst'g
- Lobby:**
- Language Lab:** 1,250 Net, 1,250 Exst'g
- House Administration Student Services:** 1,425 Net, 1,500 Exst'g
- Family & Consumer Sciences Child Development:** 2,750 Net, 2,800 Exst'g
- Foreign Language Teacher Support:** 1,500 Net, 2,125 Exst'g
- Stair:**
- SPED Inclusion (2):** 425 (850) Net, 1,125 Exst'g
- Toilets:** Multiple locations
- Flex:** Four rooms, each 1,000 Net
- Student Union:** 2,000 Net
- Cafeteria:** 7,500 Net
- Fitness:** 4,000 Net
- Gymnasium:** 17,000 Net
- Girls' Locker Room:** 3,000 Net
- Wrestling/Aerobics:** 2,000 Net
- Band:** 2,600 Net
- Choral:** 1,800 Net
- Auditorium:** 7,500 Net
- Stage:** 2,500 Net
- Broadcasting:** 2,150 Net
- Kitchen:** 3,500 Net
- Wood Shop Scene Shop:** 3,000 Net
- Mechanical/Custodial:** 2,000 Net
- Staff Dining:** 1,000 Net
- Principles of Technology:** 1,250 Net
- Project Classroom:** 1,250 Net
- Culinary Arts Lab:** 1,500 Net
- Servery:** 1,500 Net

Other features include a 2'x2' 2" metal access hatch on a circular conc. pad, a transformer on a conc. pad, and a north arrow in the bottom right corner.

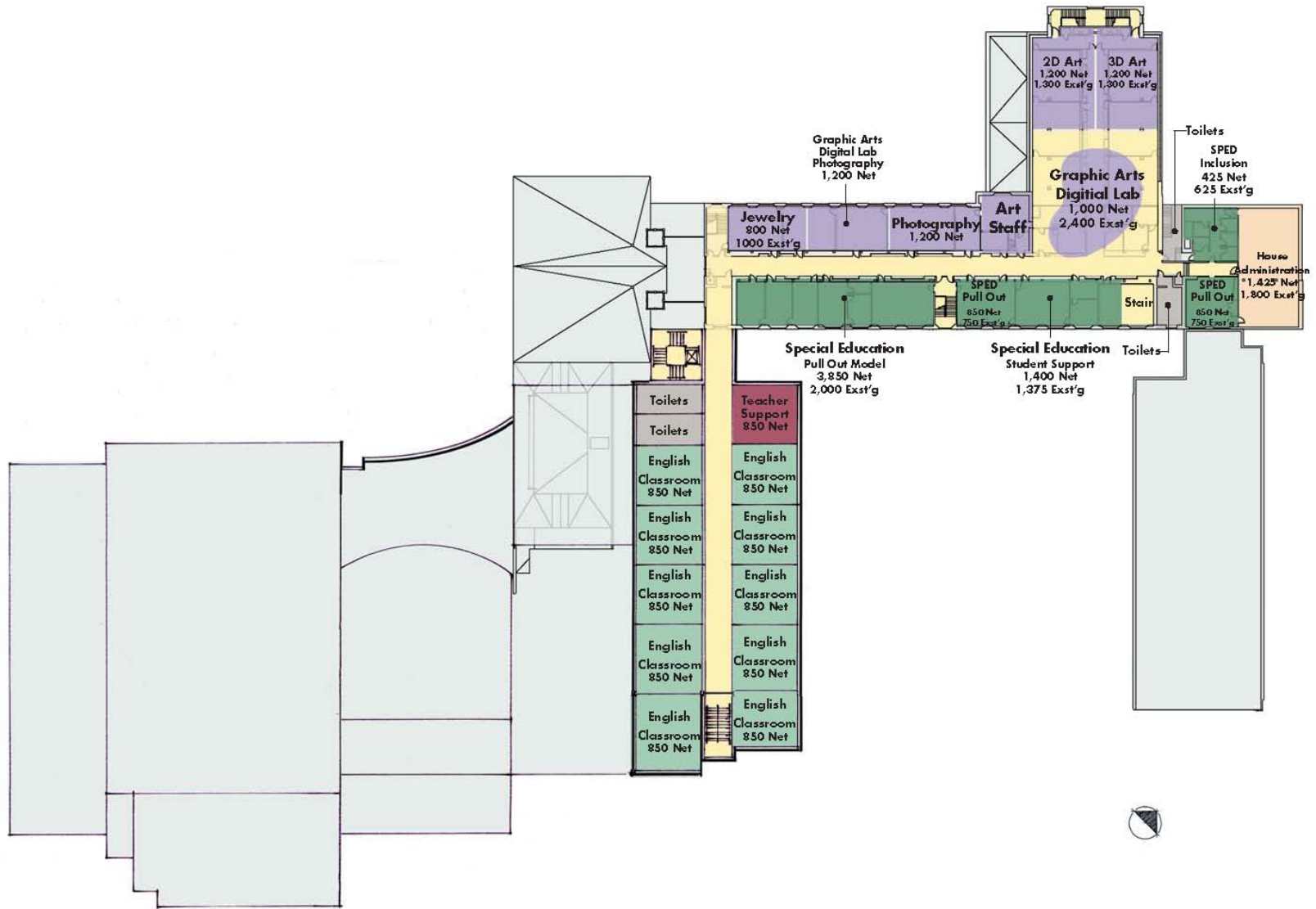
Option C: First Floor



Option C: Second Floor



Option C: Third Floor

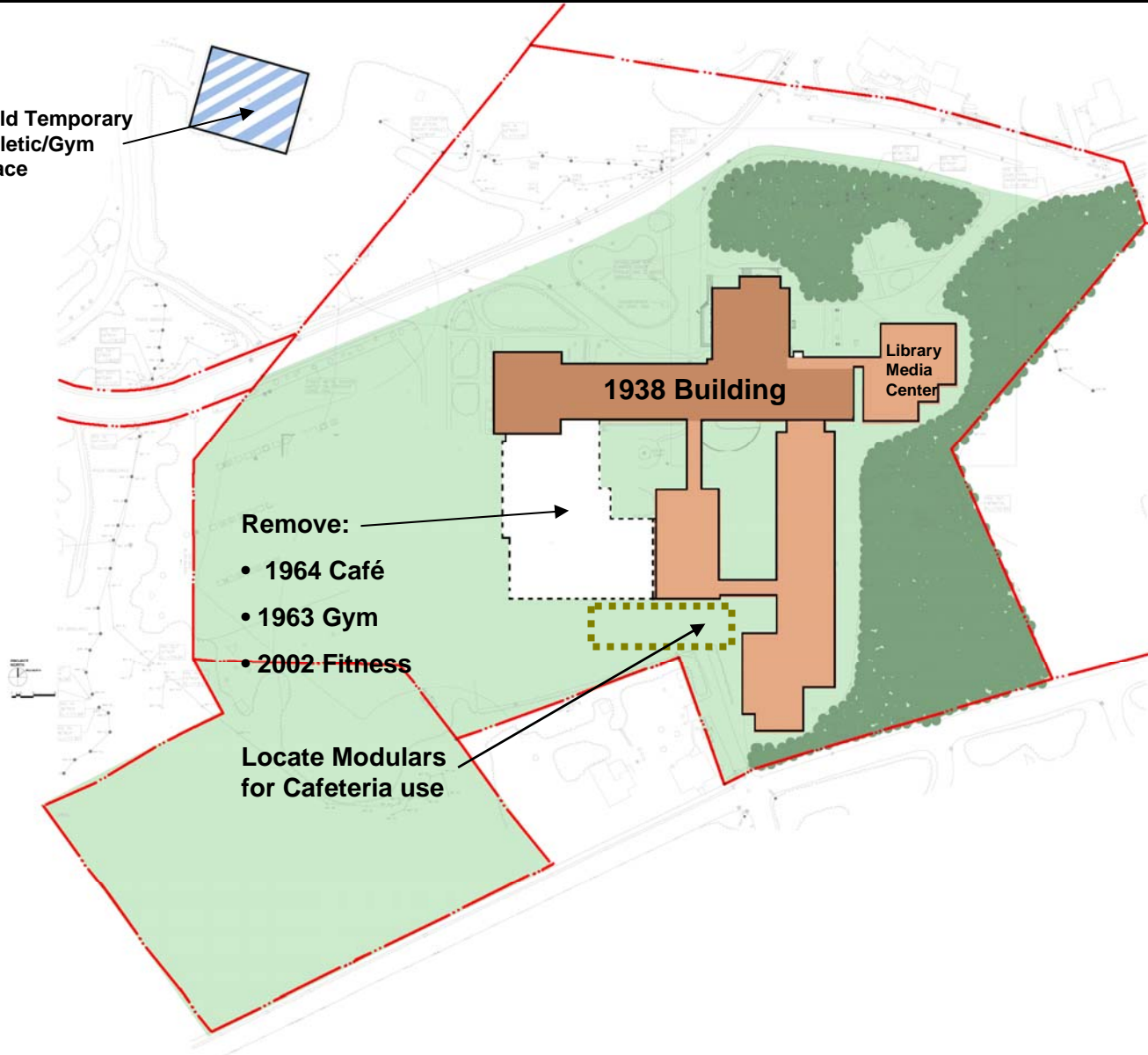


Option C: Existing Conditions



Option C: Phase 1 Demolition

Build Temporary
Athletic/Gym
Space



Option C: Phase 1 Construction



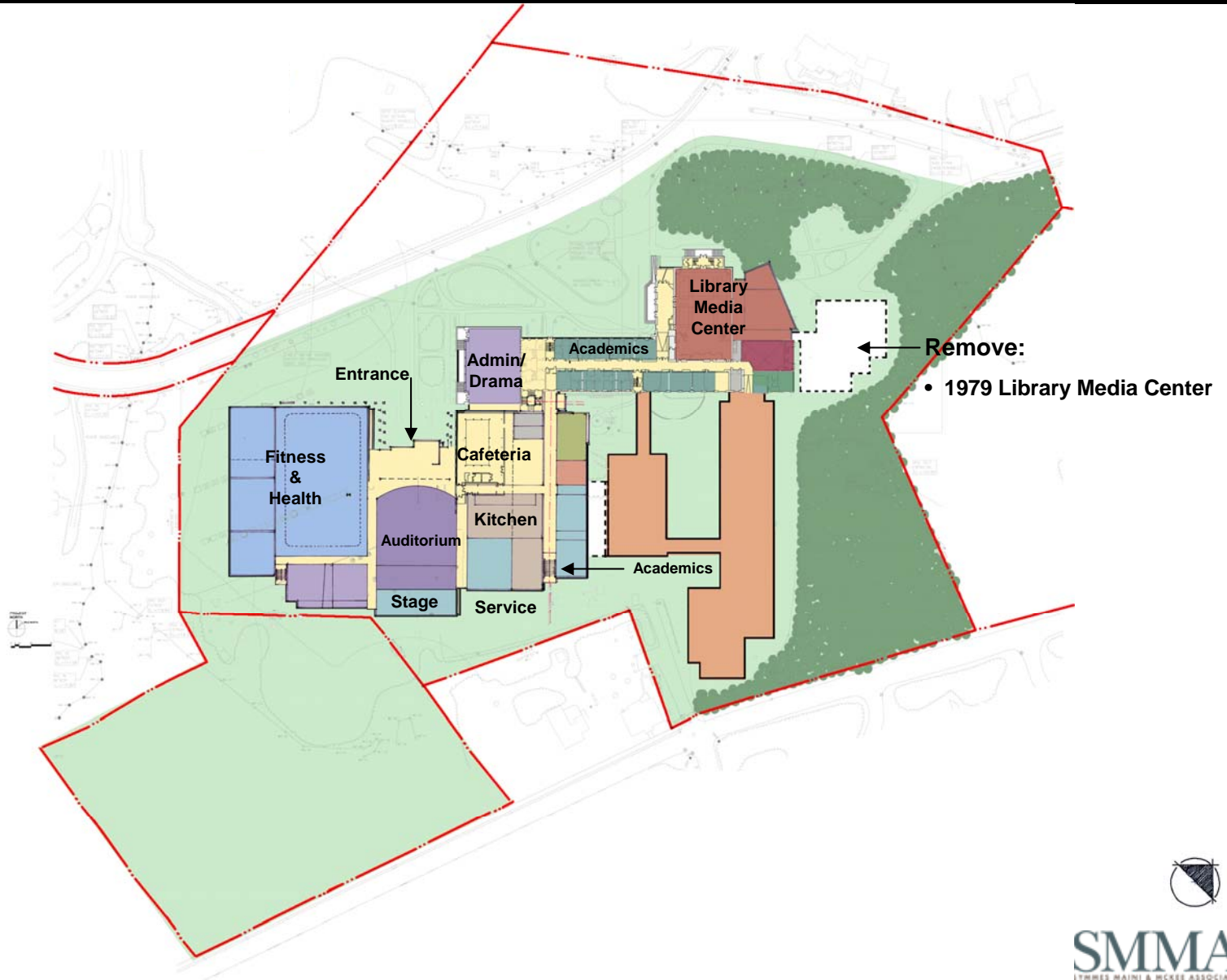
Option C: Phase 2 Renovation



Option C: Phase 3 Renovation



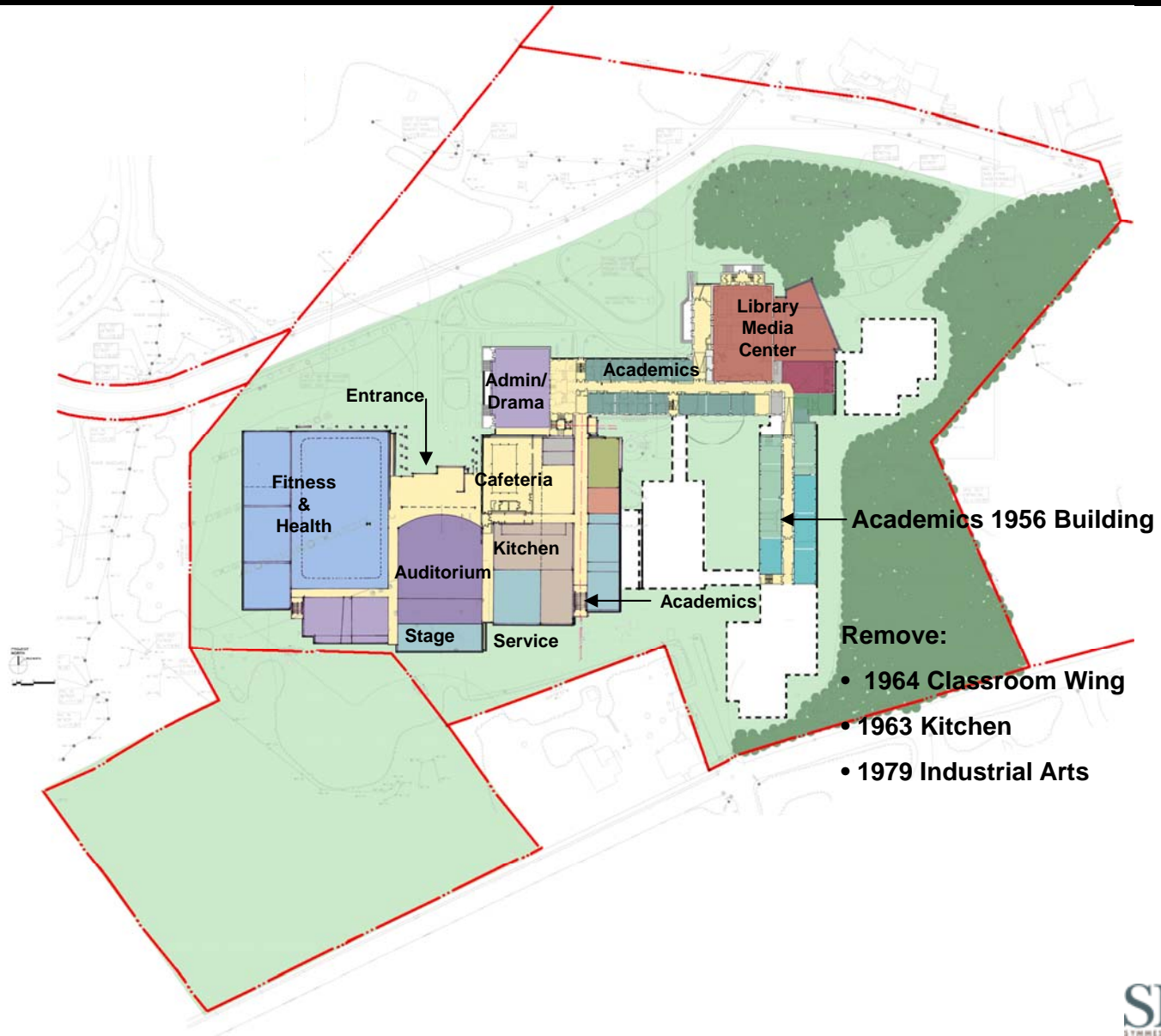
Option C: Phase 3 Renovation/Demolition



Option C: Phase 4 Renovation



Option C: Phase 4 Demolition



Option C



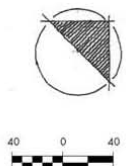
New Building Options

	OPTION				
	C	D.1	F	E.1	G
Construction Phasing Description	4 Phases (plus Initial Off-Site Gymnasium)				
Construction Duration	4 years, 7 months				
Net Area	218,535 SF				
Gross Area	335,800 SF (not including Parking Garage)				
Footprint (113,220 SF Existing)	136,500 SF				
Parking Surface (Structure)	280 (75)				

Option D.1: Site Plan



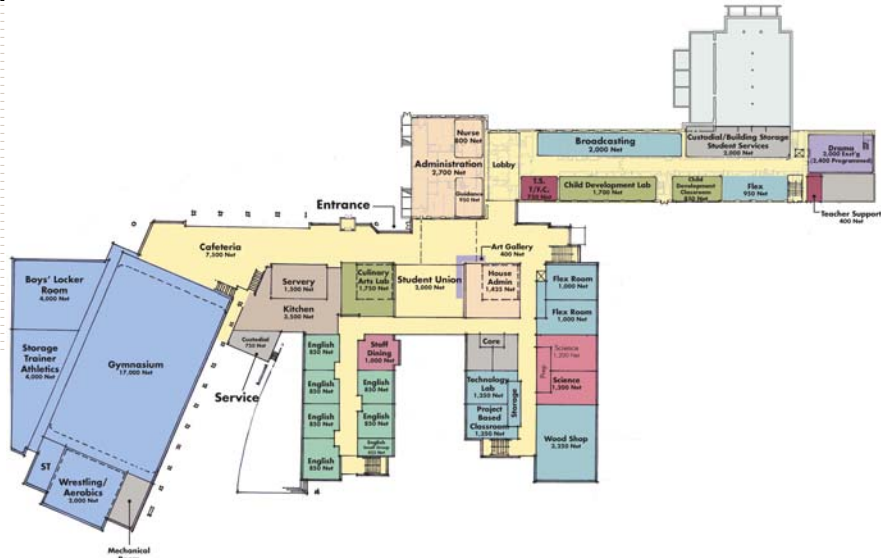
PARKING
SURFACE 320



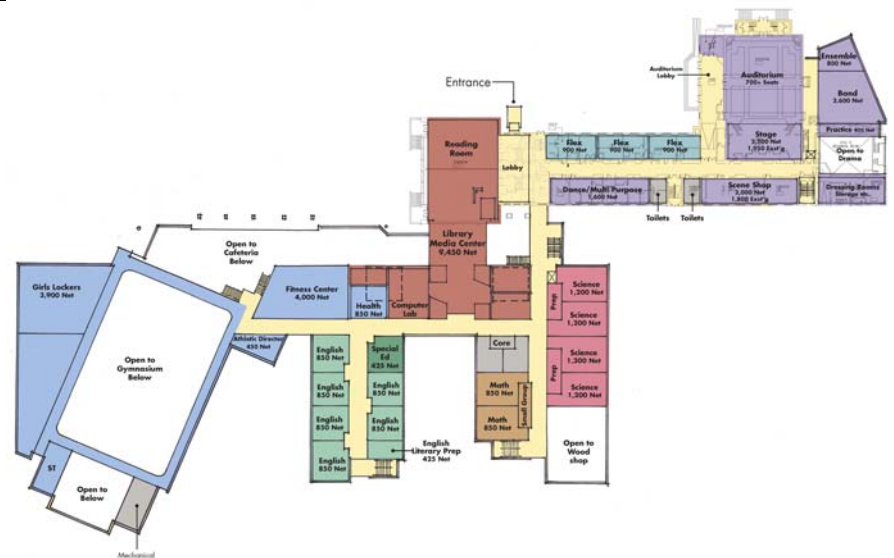
Option D.1 Program Matrix

LEGEND	PROGRAM AREA	NET SQUARE FEET	OPTION D.1	DELTA
	Science	16,500	16,500	
	Teacher Support	9,600	9,000	600
	House Admin/Student Services	4,275	4,275	
	English	13,025	13,025	
	Social Studies	12,000	12,000	
	Mathematics	12,200	12,200	
	Classical & Modern Languages	10,300	10,450	150
	Flex Classrooms	7,000	6,050	(950)
	Technology/Engineering	8,400	8,400	
	Family & Consumer Science	6,300	6,100	200
	Art	7,850	8,250	400
	Performing Arts	11,550	11,425	(125)
	Auditorium	11,400	9,650	(1,750)
	Special Education	8,650	8,600	(50)
	Fitness and Health	44,000	44,000	
	Library	9,450	9,450	
	Cafeteria/Student Union	16,400	16,400	
	Large Group Instruction	0	0	
	Administration Suite	2,700	4,450	
	Guidance/Student Support	950		
	Nurses Office	800		
	Custodial	2,750	2,750	
	Contingent Spaces	3,000	2,000	Scene Shop
	Other Spaces	240	240	
	Non-School Spaces	2,900	Not Included	
	TOTAL NET	222,240	215,215	
	TOTAL GROSS (without garage)	317,898	332,000	

Option D.1



Ground Floor



First Floor

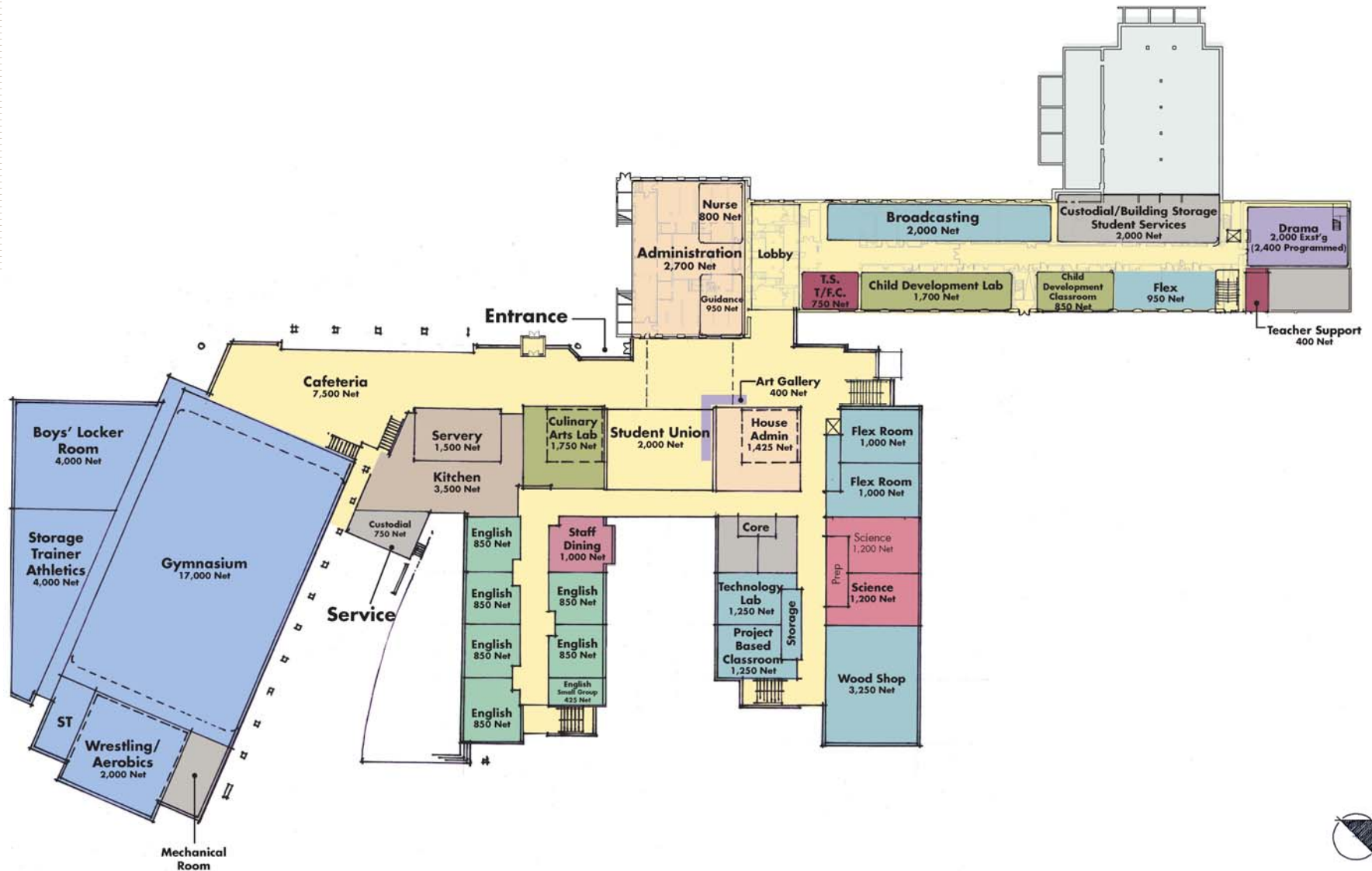


Second Floor

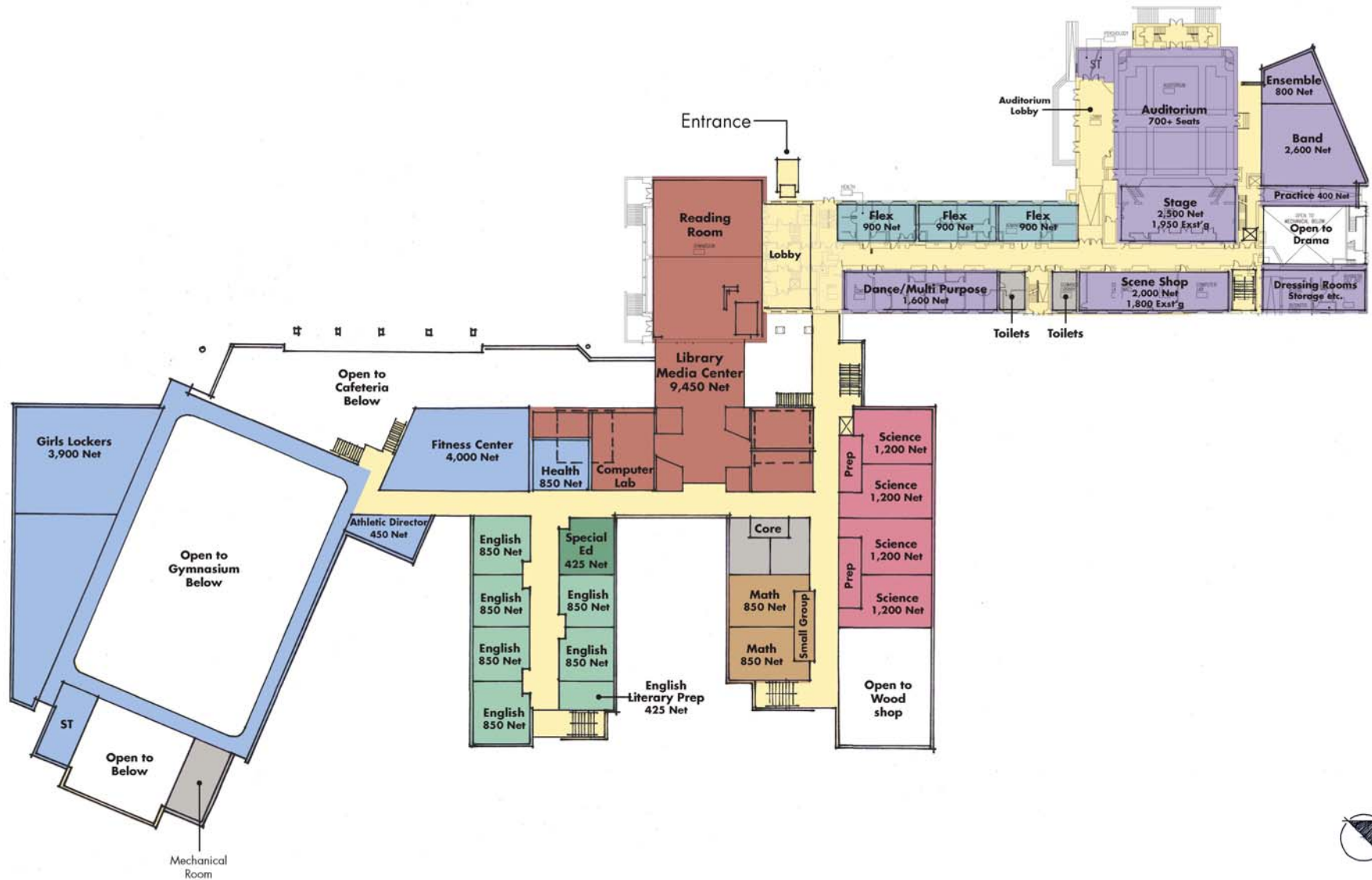


Third Floor

Option D.1: Ground Floor



Option D.1: First Floor



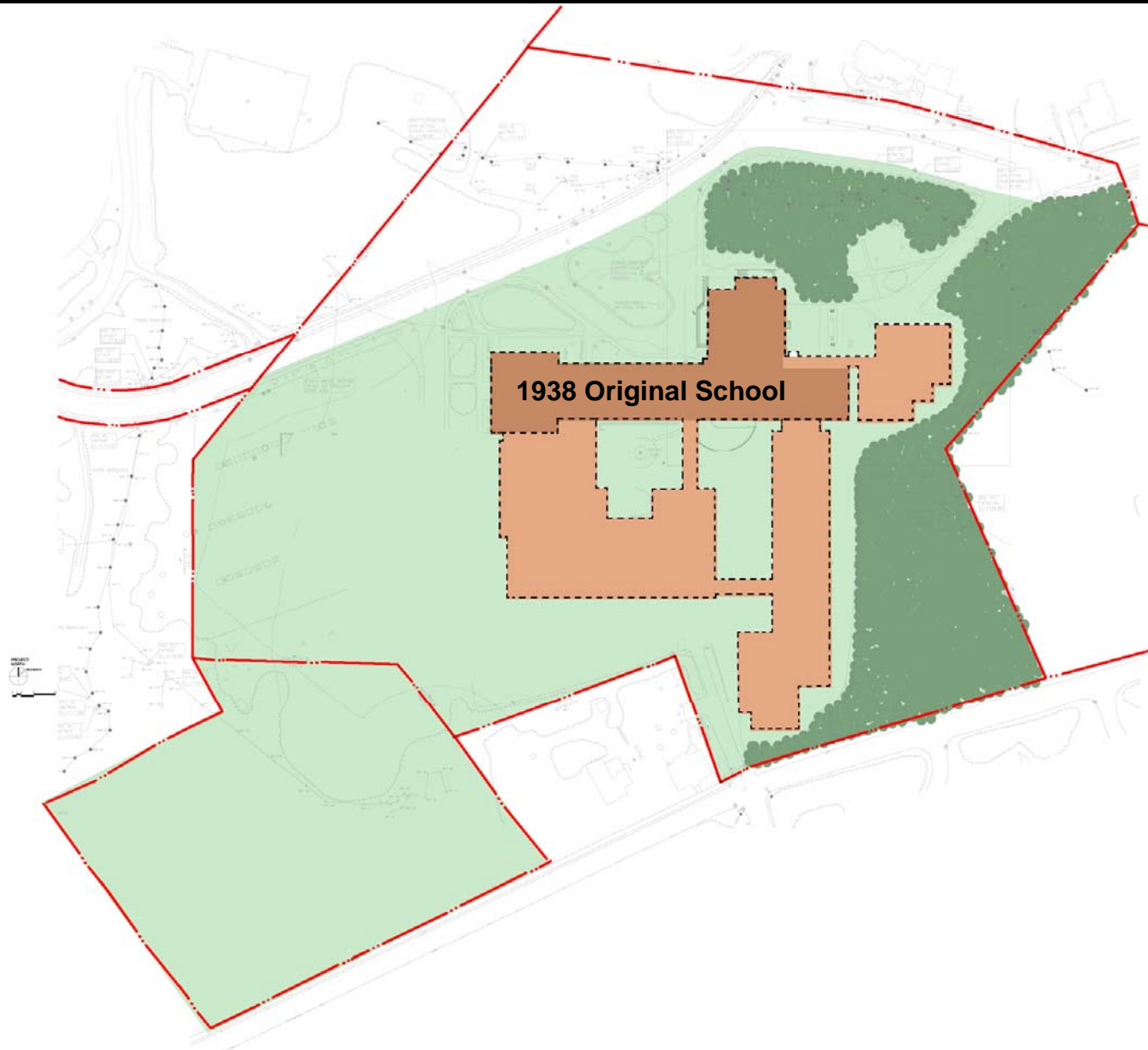
Option D.1: Second Floor



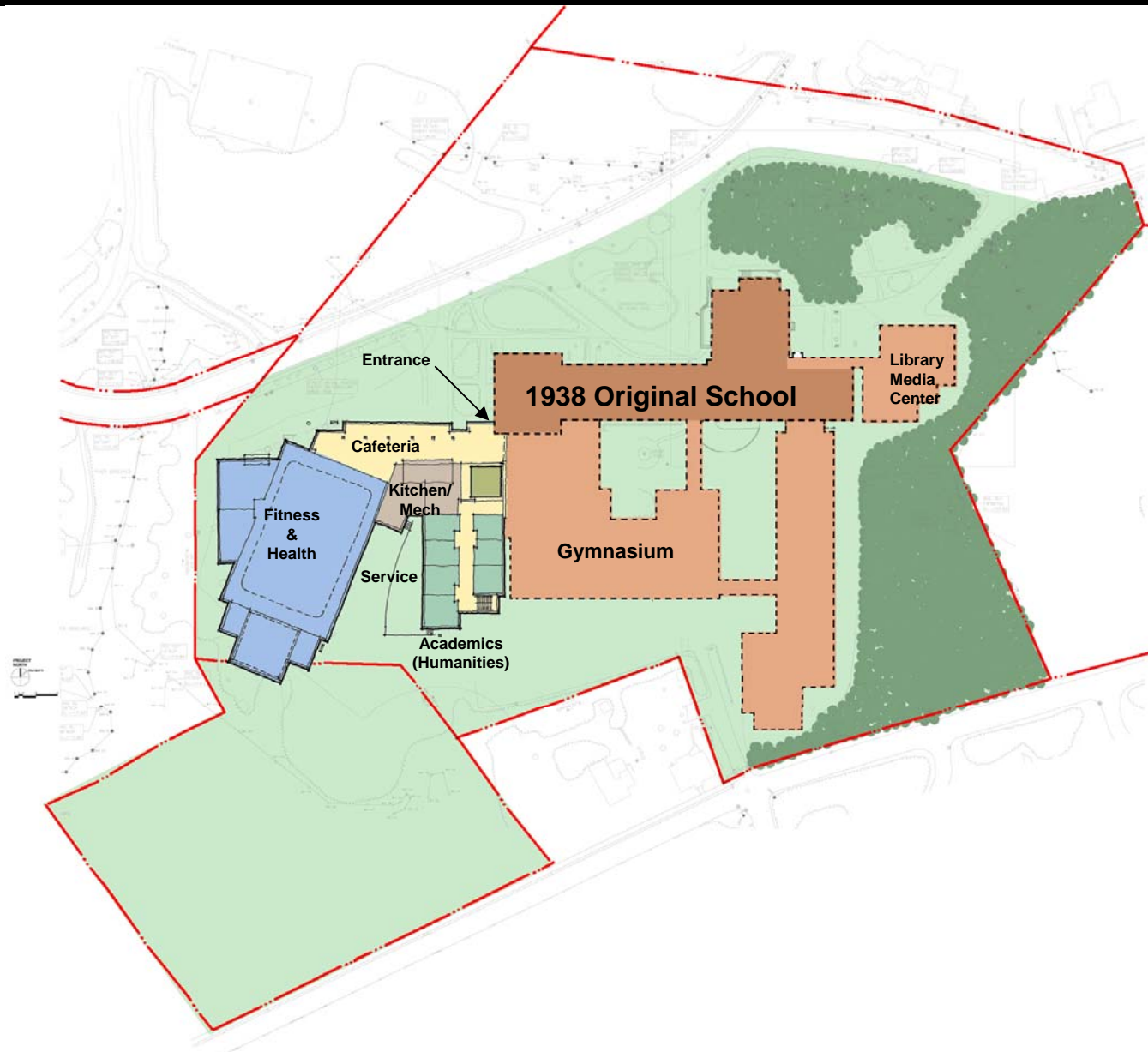
Option D.1: Third Floor



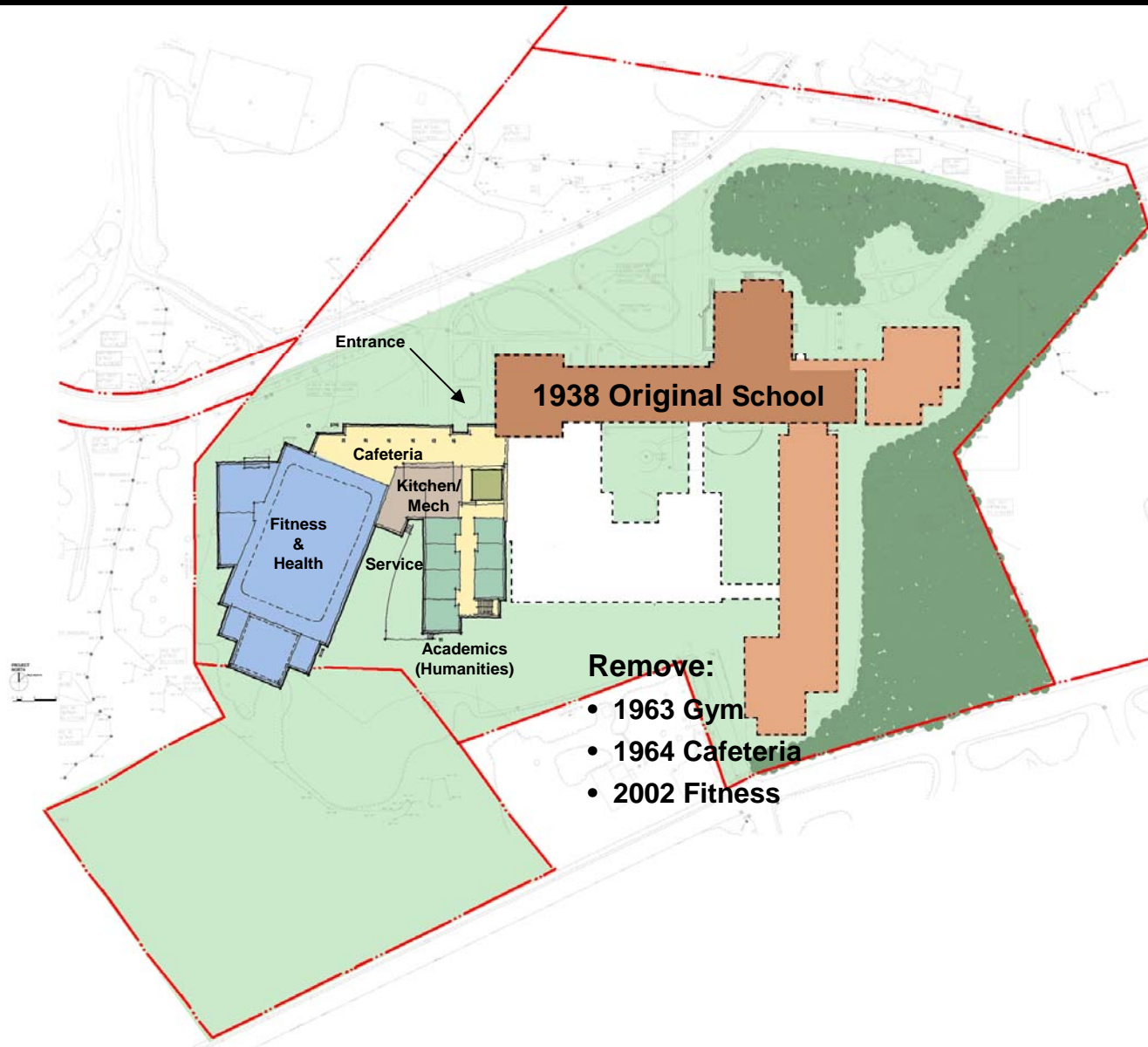
Option D.1: Existing Conditions



Option D.1: Phase 1



Option D.1: Phase 1 Demolition



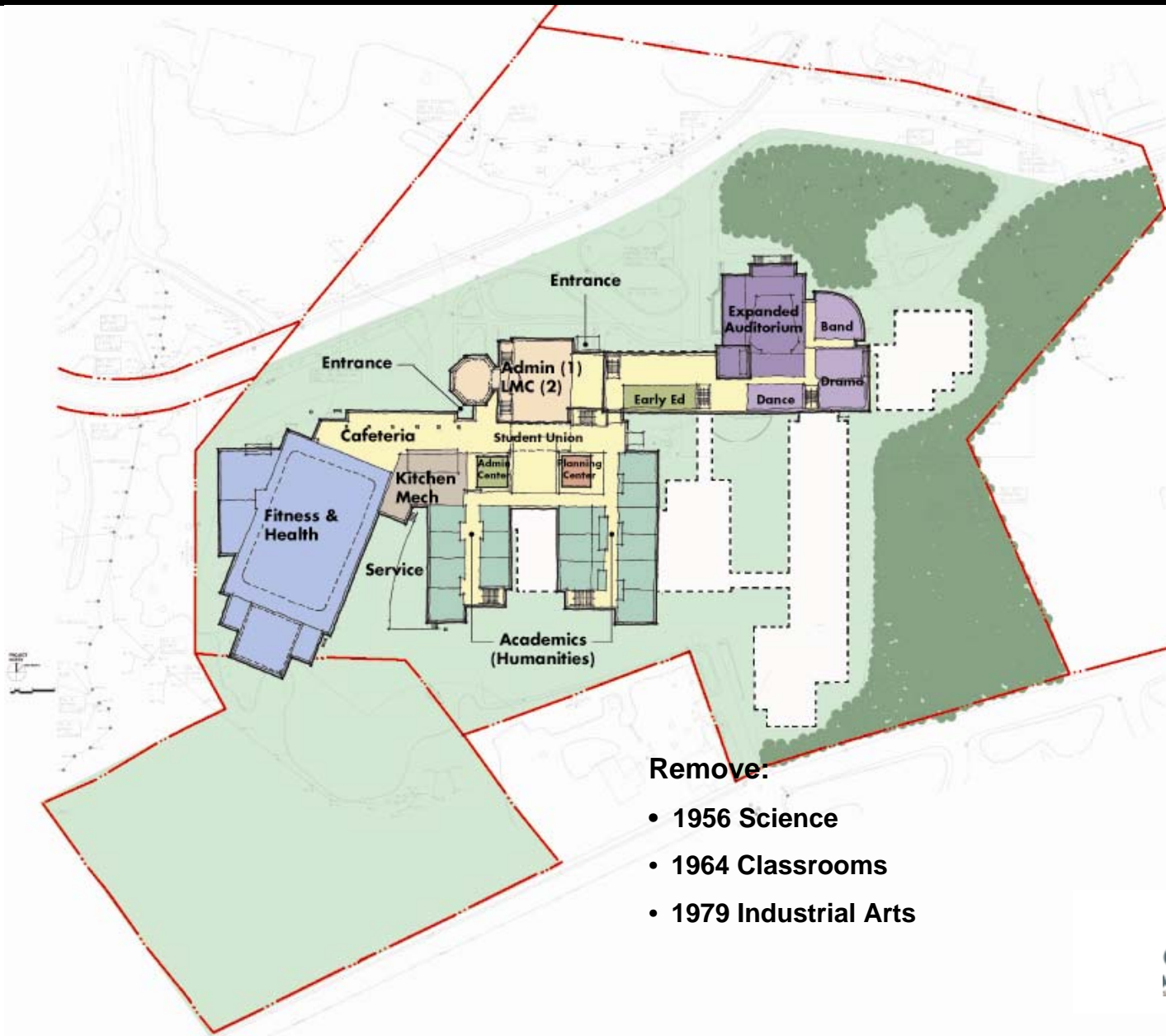
Option D.1: Phase 2



Option D.1: Phase 3



Option D.1: Phase 3 Demolition



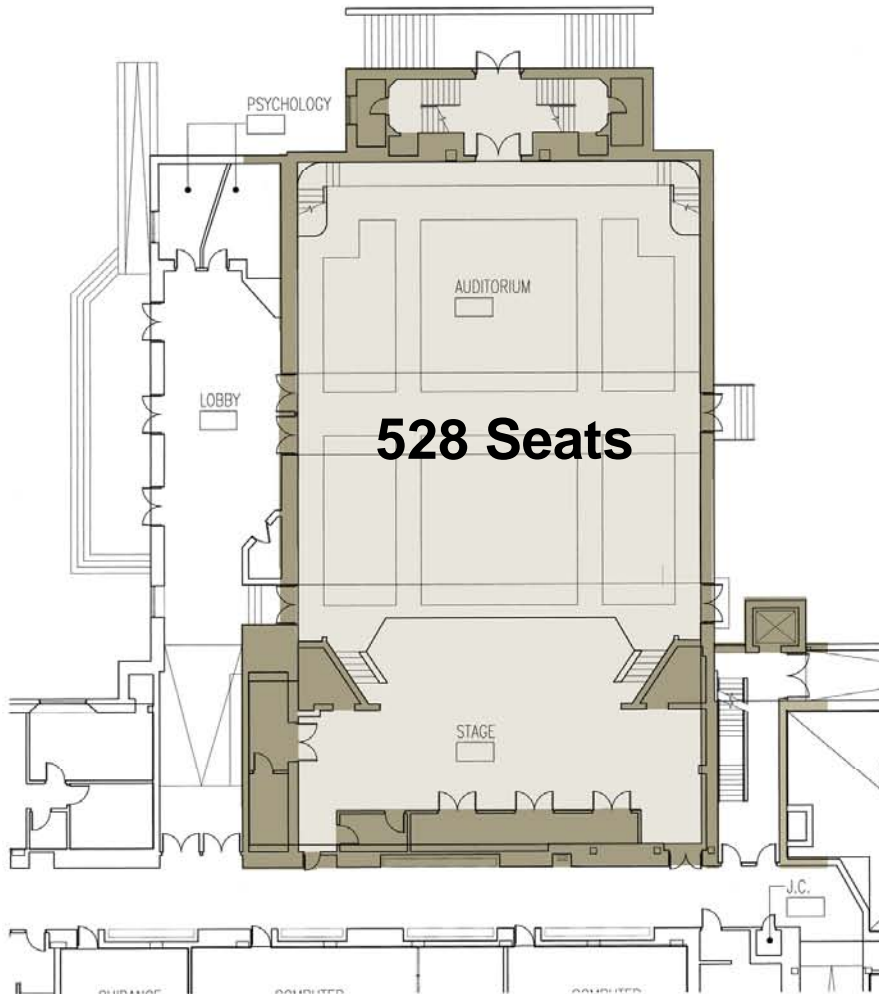
Remove:

- 1956 Science
- 1964 Classrooms
- 1979 Industrial Arts

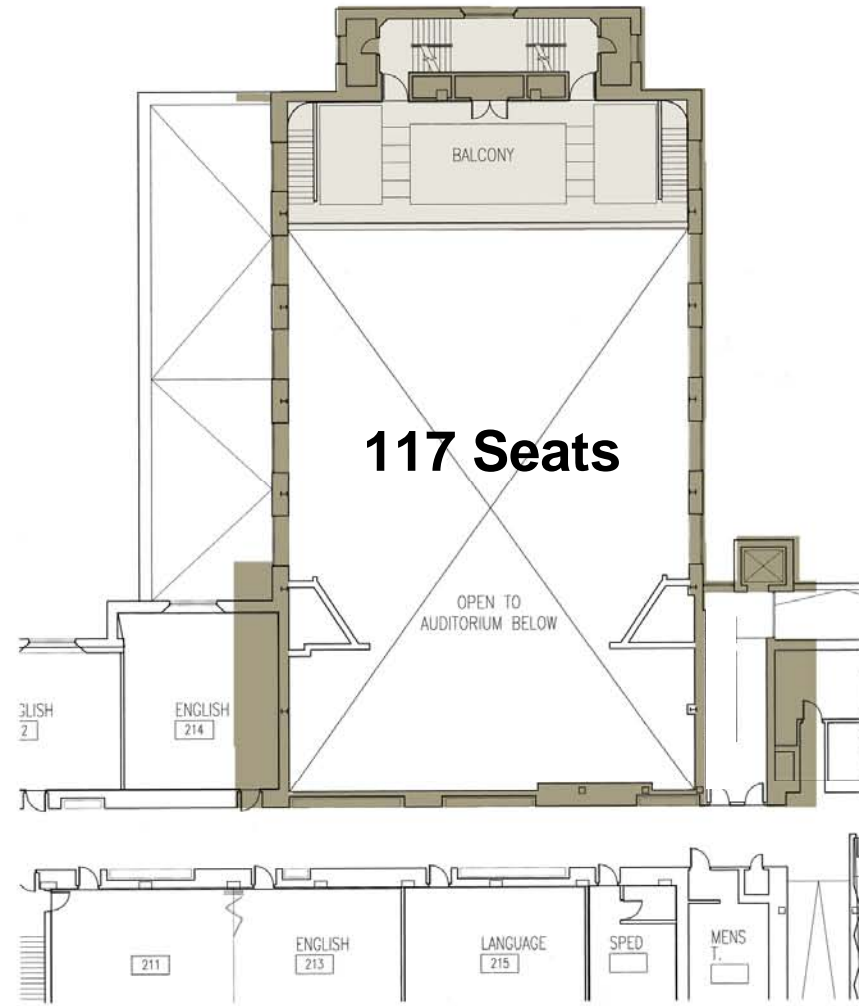


Option D.1: Existing Auditorium

645 Seats Total



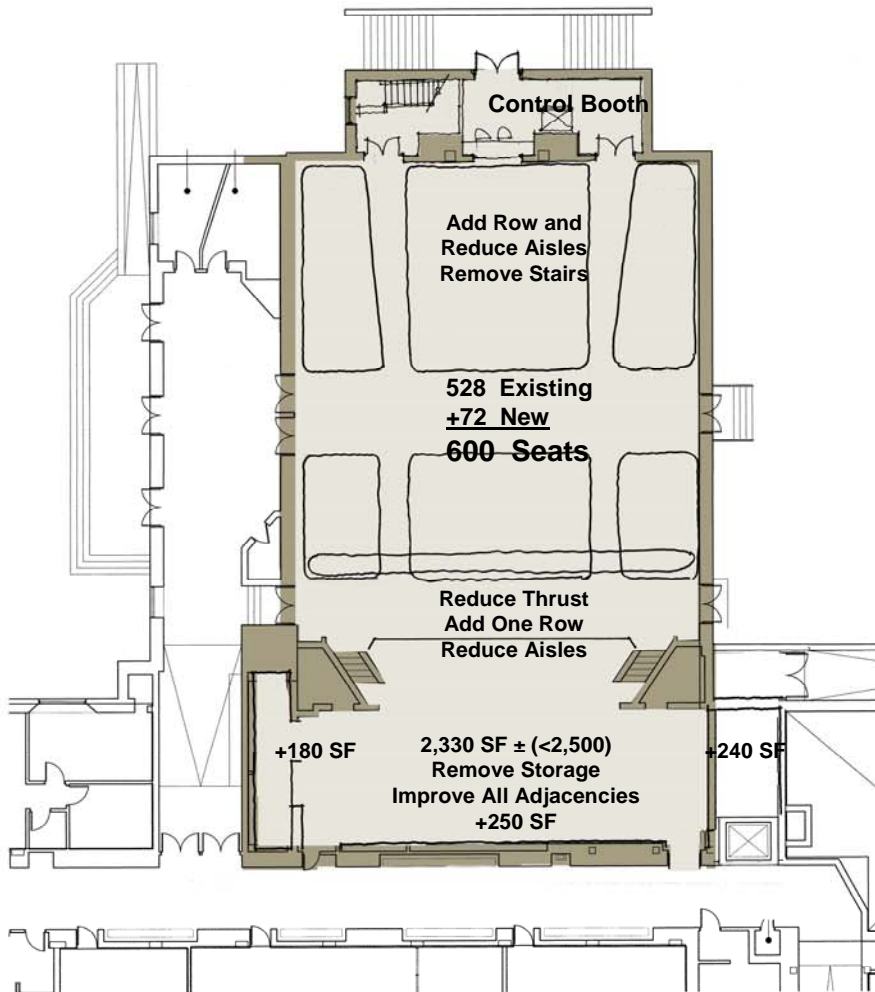
First Floor



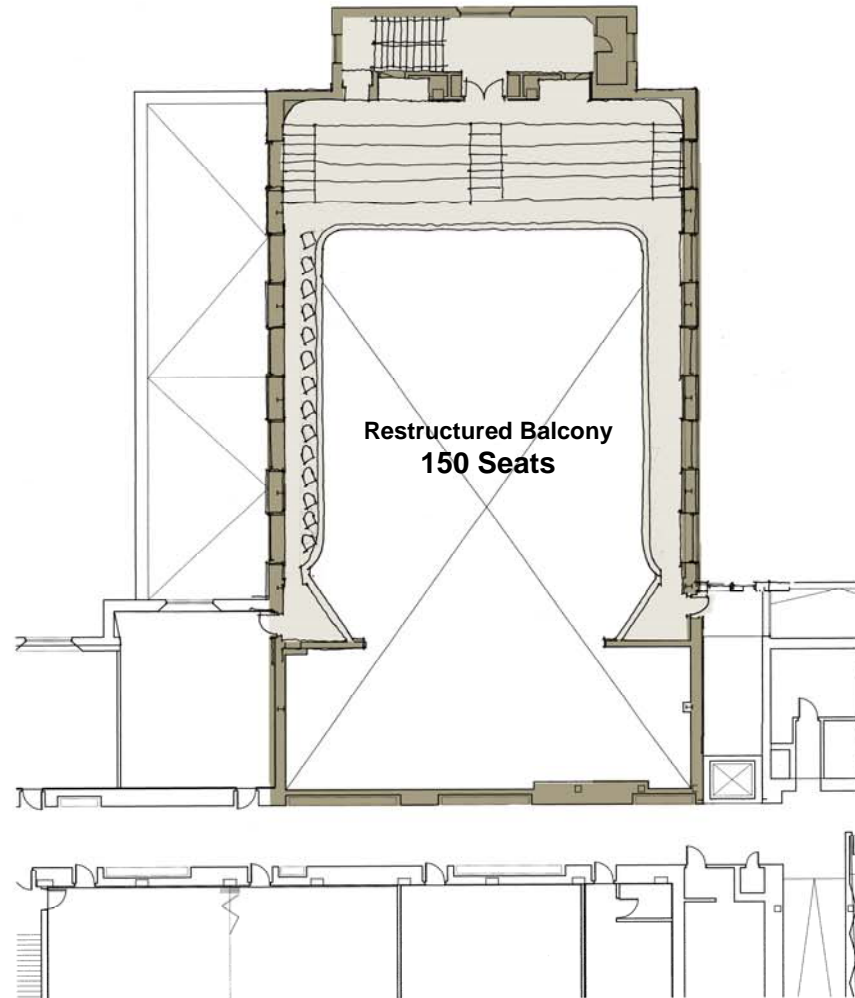
Second Floor

Option D.1: Proposed Auditorium

750 Seats Total



First Floor

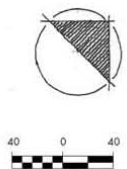


Second Floor

Option D.1: Site Plan



PARKING
SURFACE 320



New Building Options

	OPTION				
	C	D.1	F	E.1	G
Construction Phasing Description	4 Phases (plus Initial Off-Site Gymnasium)	3 Phases			
Construction Duration	4 years, 7 months	5 years, 4 months			
Net Area	218,535 SF	215,215 SF			
Gross Area	335,800 SF (not including Parking Garage)	332,000 SF			
Footprint (113,220 SF Existing)	136,500 SF	131,300 SF			
Parking Surface (Structure)	280 (75)	320			

Option F: Site Plan



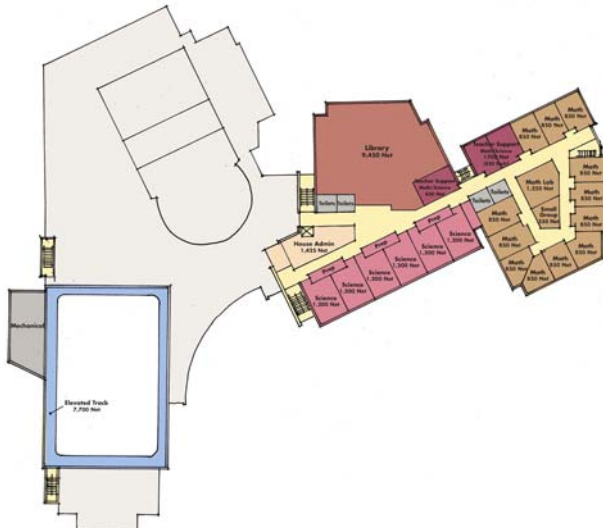
Option F



First Floor



Second Floor

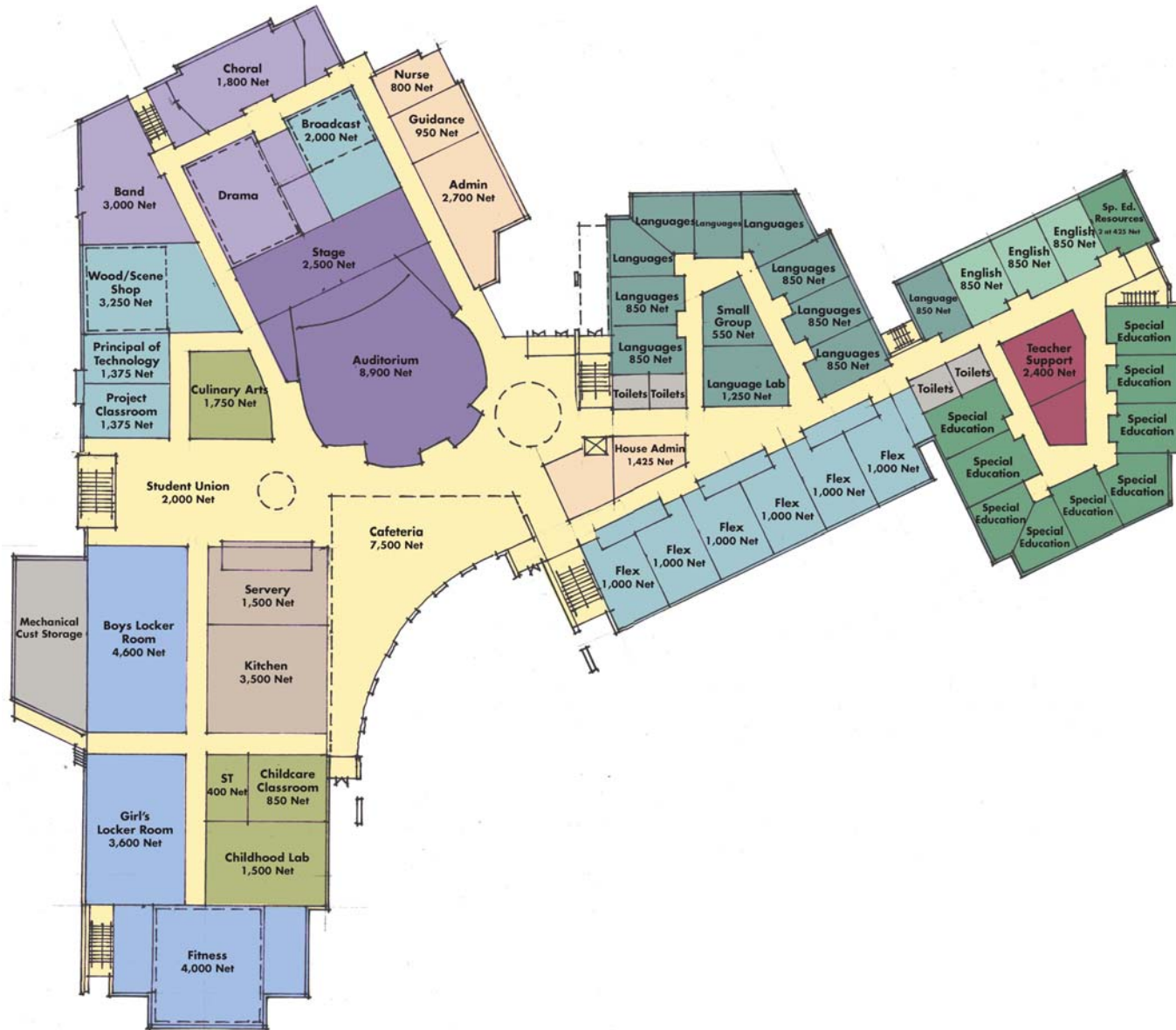


Third Floor

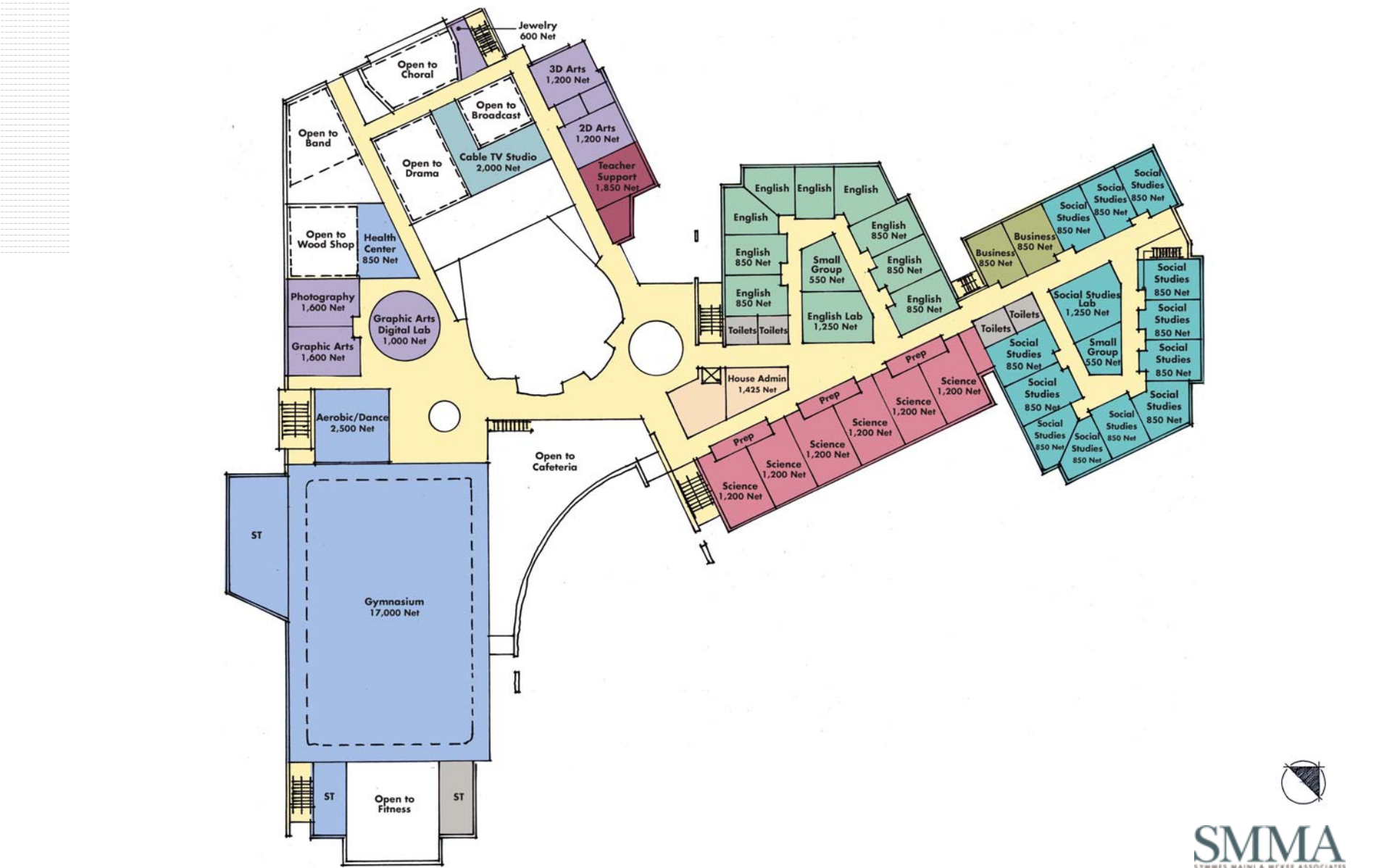
Option F

LEGEND	PROGRAM AREA	NET SQUARE FEET	OPTION F
	Science	16,500	16,500
	Teacher Support	9,600	9,600
	House Admin/Student Services	4,275	4,275
	English	13,025	13,025
	Social Studies	12,000	12,000
	Mathematics	12,200	12,200
	Classical & Modern Languages	10,300	10,300
	Flex Classrooms	7,000	6,000
	Technology/Engineering	8,400	8,400
	Family & Consumer Science	6,300	6,300
	Art	7,850	7,850
	Performing Arts	11,550	11,550
	Auditorium	11,400	11,400
	Special Education	8,650	8,650
	Fitness and Health	44,000	44,000
	Library	9,450	9,450
	Cafeteria/Student Union	16,400	16,400
	Large Group Instruction	0	0
	Administration Suite	2,700	4,450
	Guidance/Student Support	950	
	Nurses Office	800	
	Custodial	2,750	2,750
	Contingent Spaces	3,000	0
	Other Spaces	240	240
	Non-School Spaces	2,900	2,900
	TOTAL NET	222,240	218,240
	TOTAL GROSS (without garage)	317,898	316,448

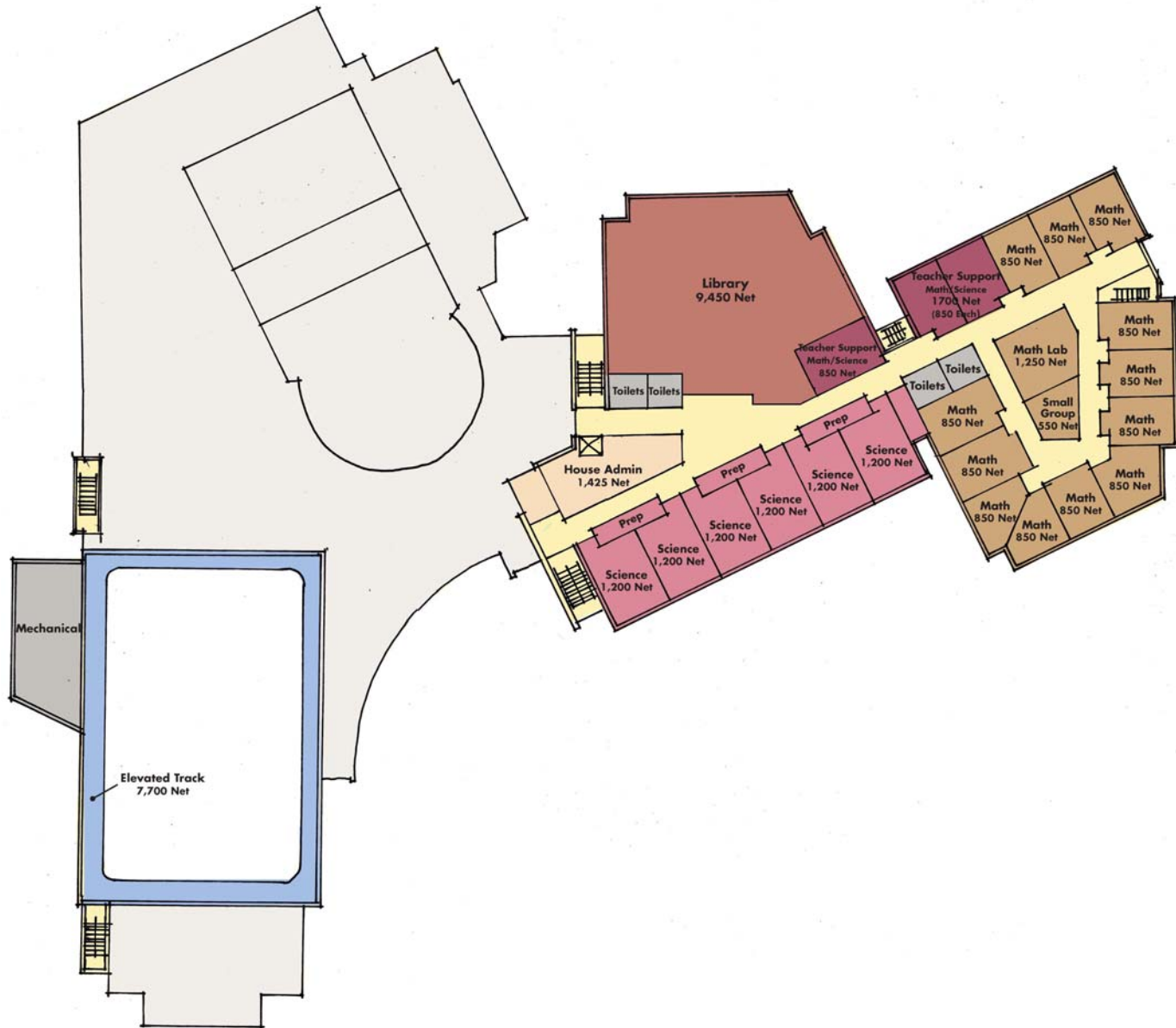
Option F: First Floor



Option F: Second Floor



Option F: Third Floor



Option F: Existing Conditions



Option F: Phase 1



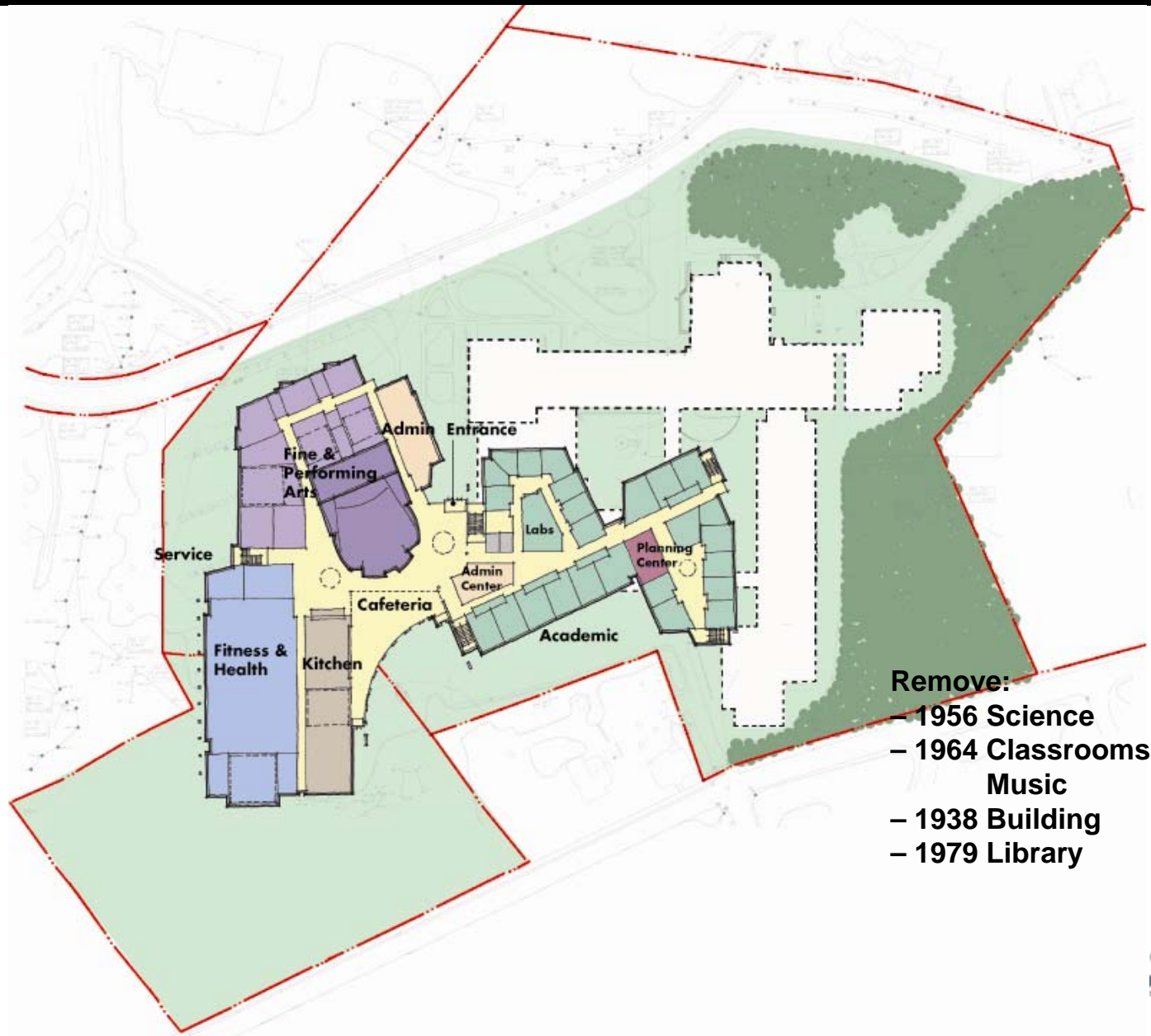
Option F: Phase 1 Demolition



Option F: Phase 2



Option F: Phase 2 Demolition



Option F: Site Plan



New Building Options

	OPTION				
	C	D.1	F	E.1	G
Construction Phasing Description	4 Phases (plus Initial Off-Site Gymnasium)	3 Phases	2 Phases		
Construction Duration	4 years, 7 months	5 years, 4 months	4 years, 6 months		
Net Area	218,535 SF	215,215 SF	216,340 SF		
Gross Area	335,800 SF (not including Parking Garage)	332,000 SF	316,448 SF		
Footprint (113,220 SF Existing)	136,500 SF	131,300 SF	159,500 SF		
Parking Surface (Structure)	280 (75)	320	320		

Test Fit Planning Options



Option C



Option D.1



Option F



Option E

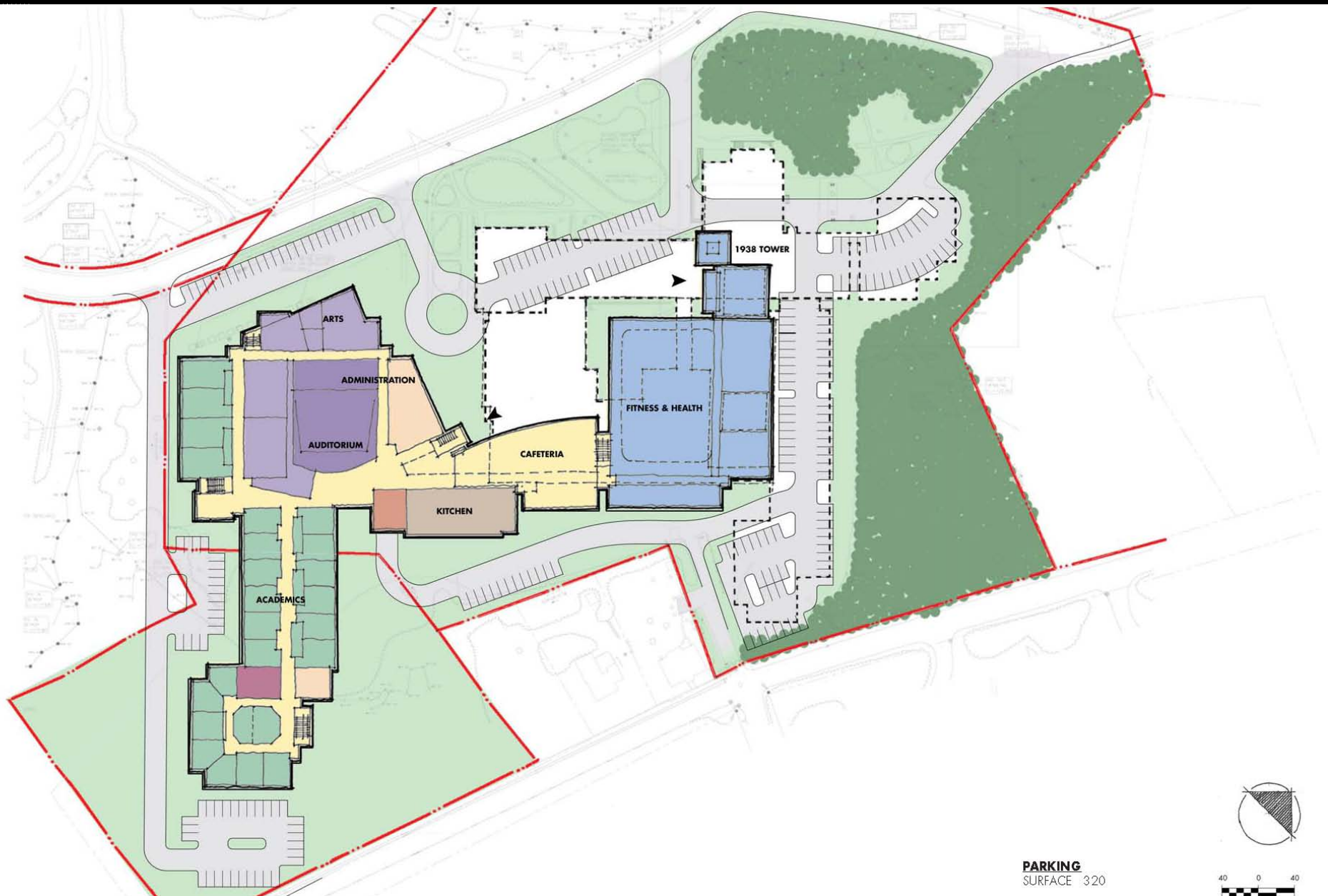


Option E.1

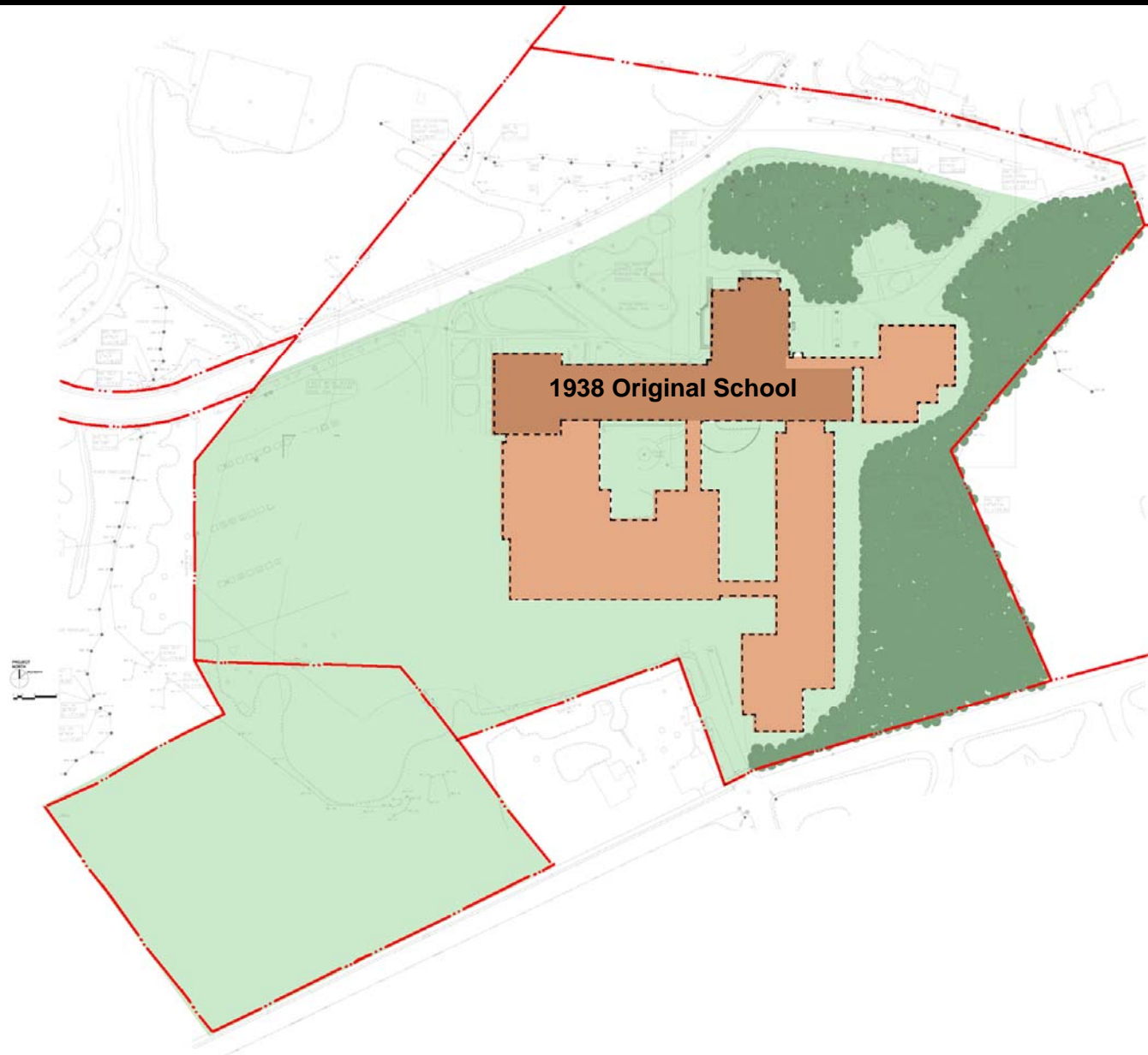


Option G

Option E



Option E: Existing Conditions



Option E: Phase 1



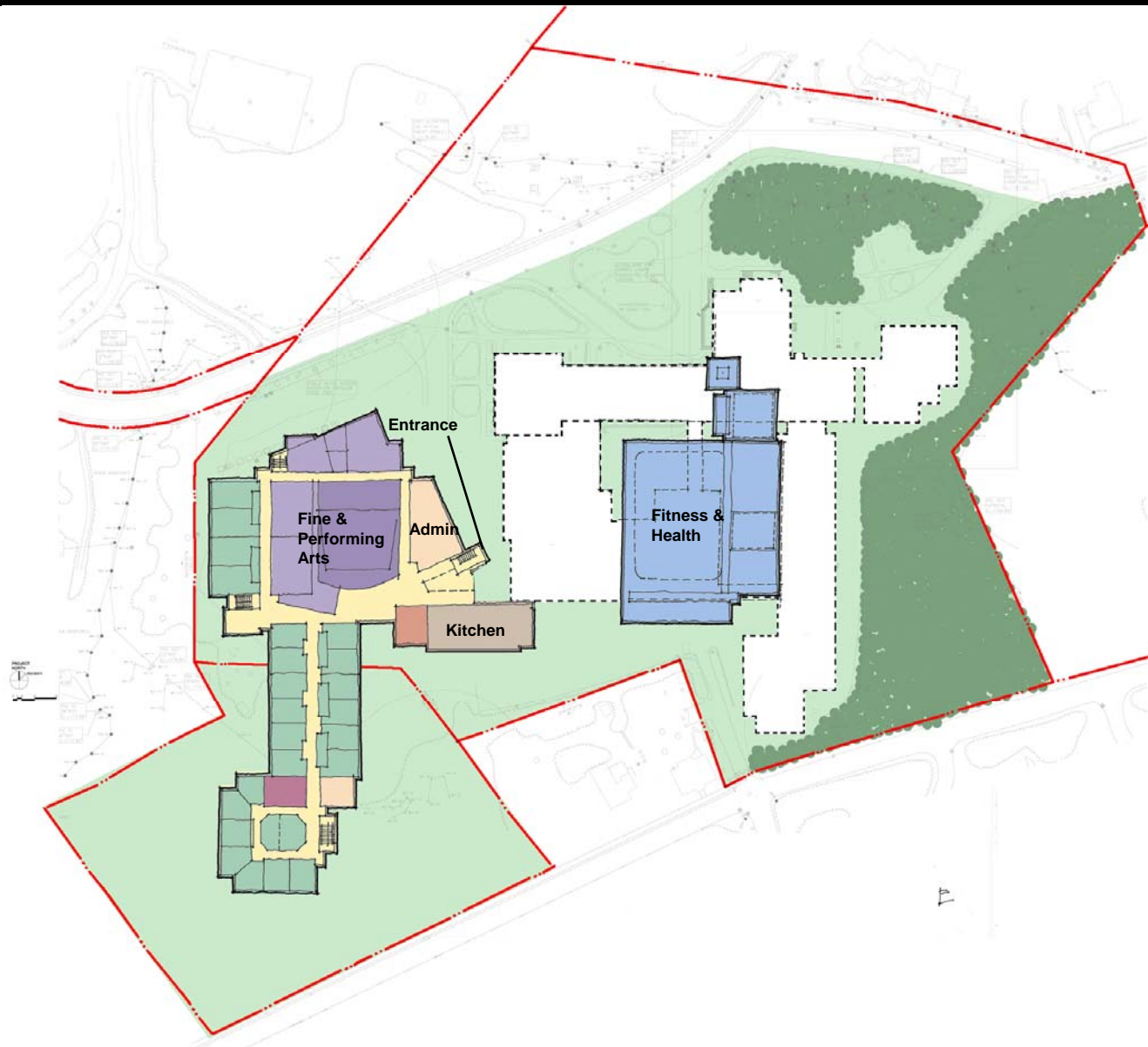
Option E: Phase 1 Demolition



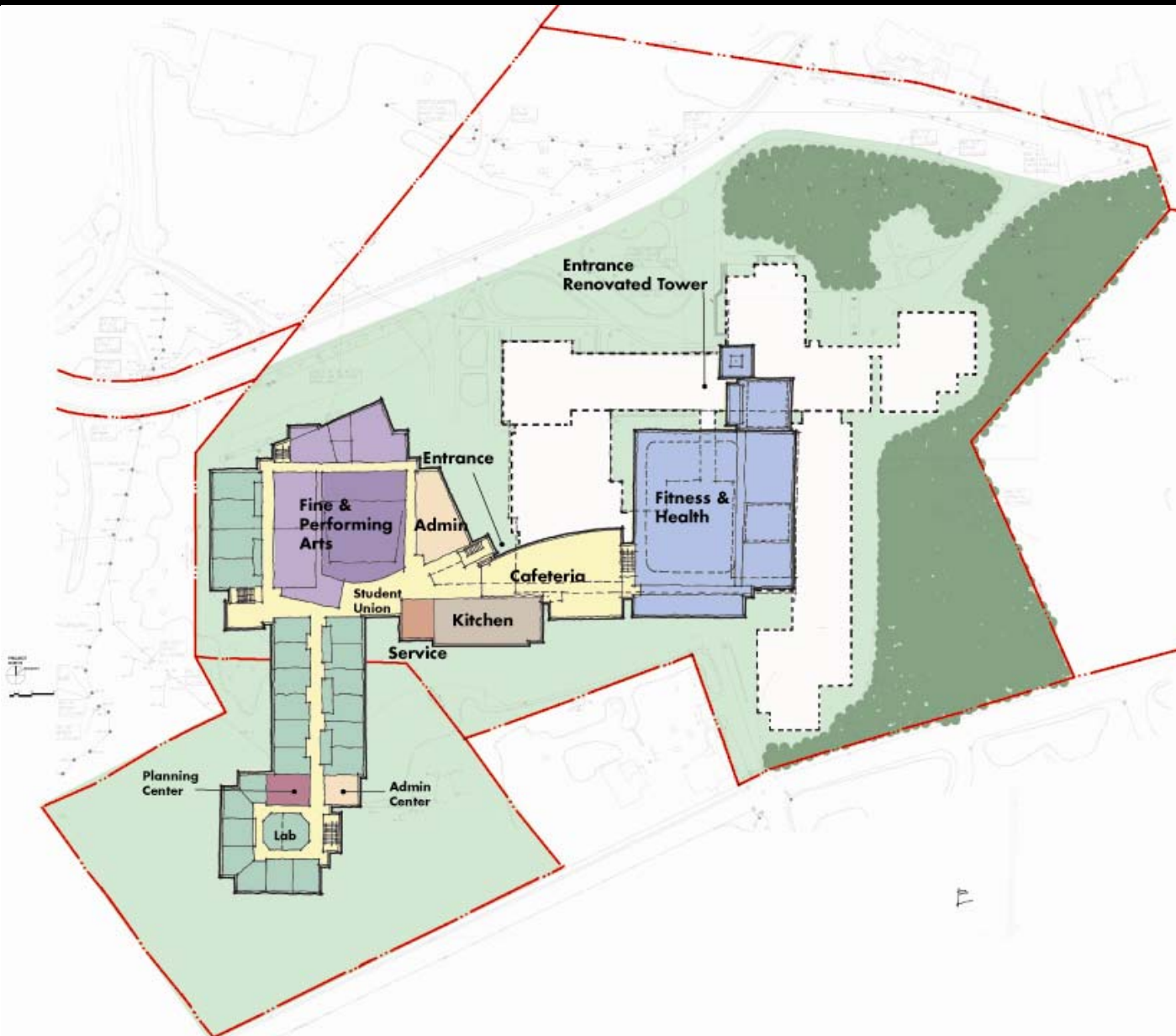
Option E: Phase 2



Option E: Phase 2 Demolition



Option E: Phase 3



Option E.1



New Building Options

	OPTION				
	C	D.1	F	E.1	G
Construction Phasing Description	4 Phases (plus Initial Off-Site Gymnasium)	3 Phases	2 Phases	1 Phase	
Construction Duration	4 years, 7 months	5 years, 4 months	4 years, 6 months	4 years	
Net Area	218,535 SF	215,215 SF	216,340 SF	216,340 SF	
Gross Area	335,800 SF (not including Parking Garage)	332,000 SF	316,448 SF	316,448 SF	
Footprint (113,220 SF Existing)	136,500 SF	131,300 SF	159,500 SF	±159,500 SF ±90,000 SF (E.1)	
Parking Surface (Structure)	280 (75)	320	320	320 350 (E.1)	

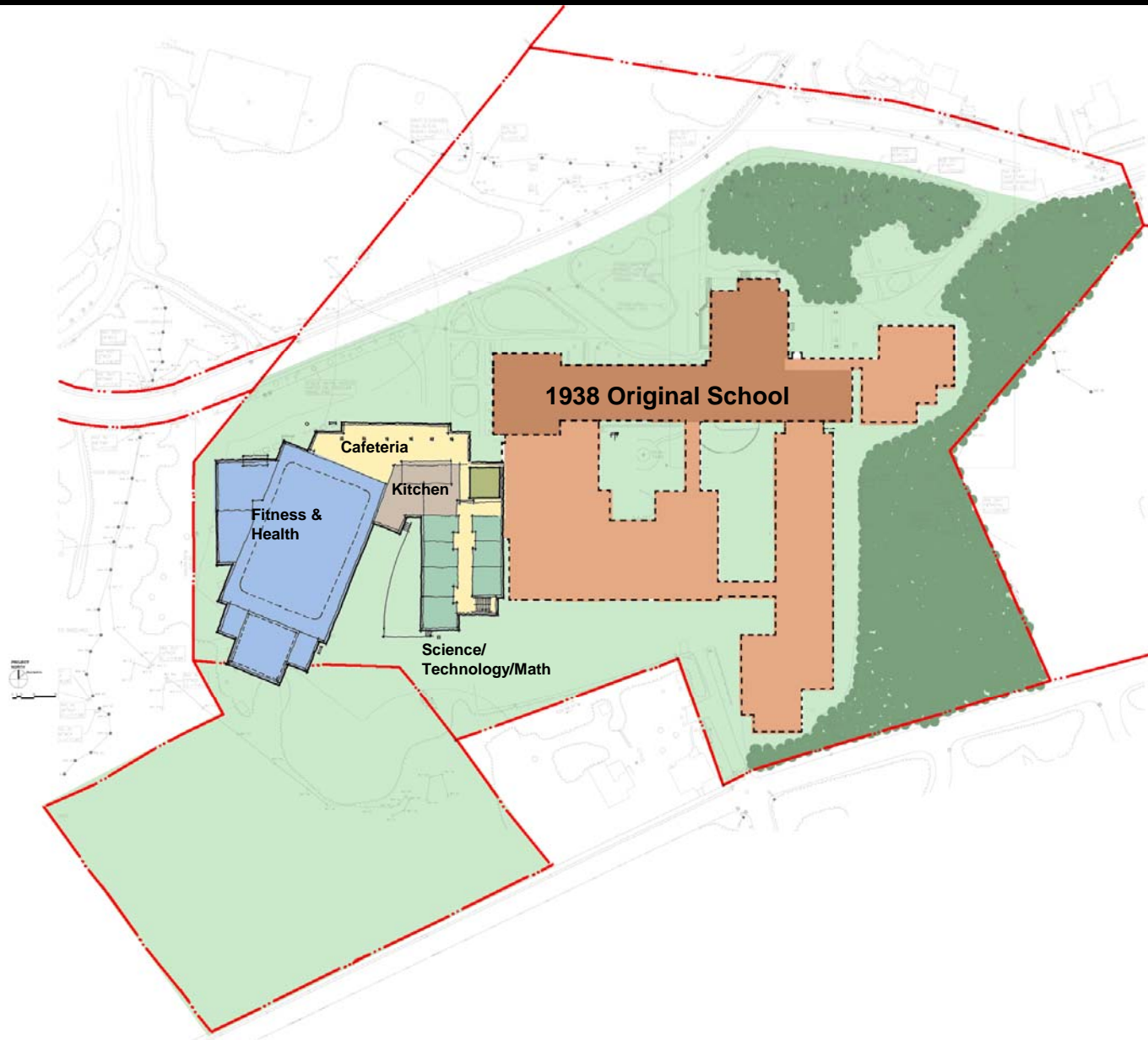
Option G



Option G: Existing Conditions



Option G: Phase 1



Option G: Phase 1 Demolition



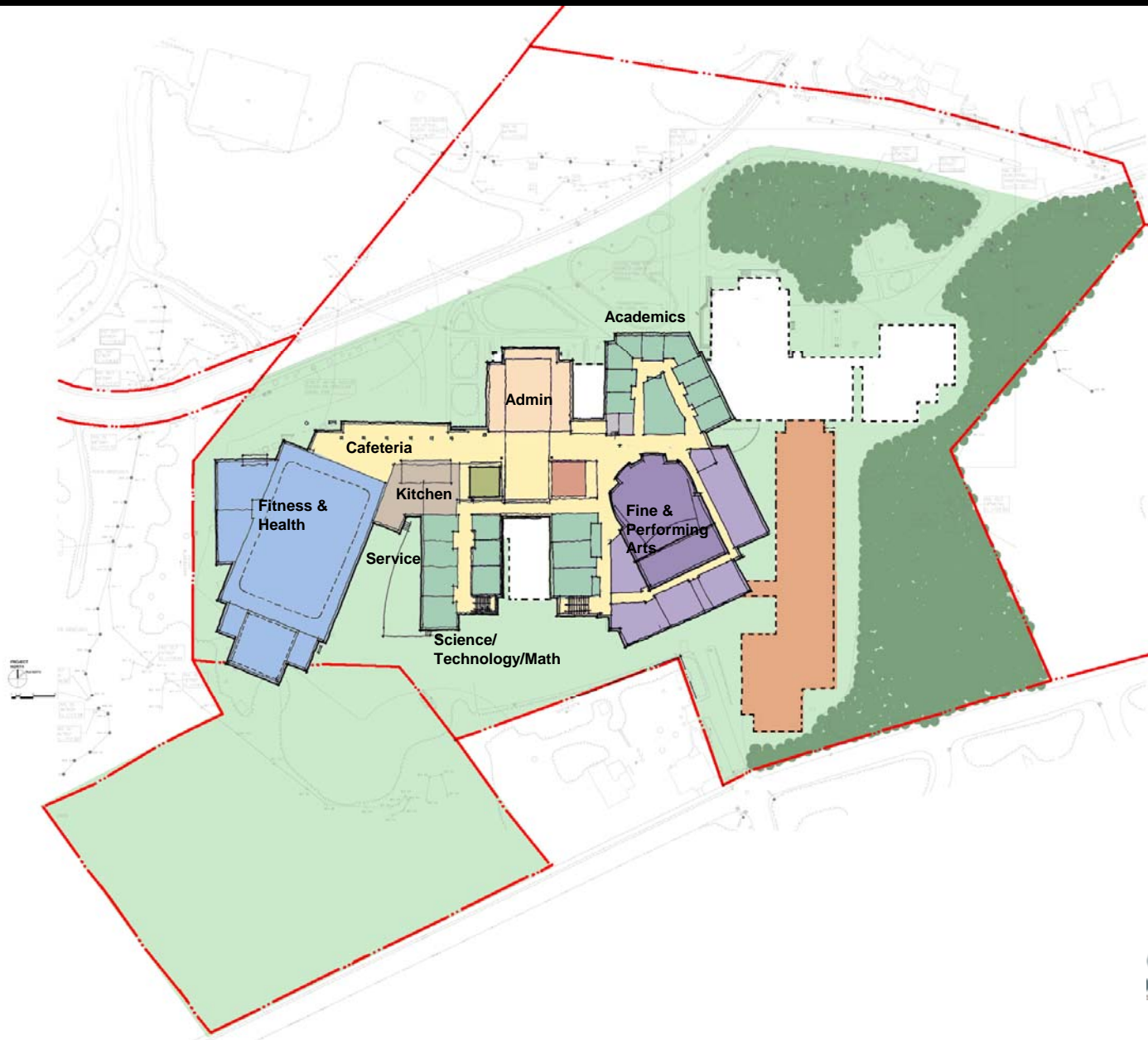
Option G: Phase 2



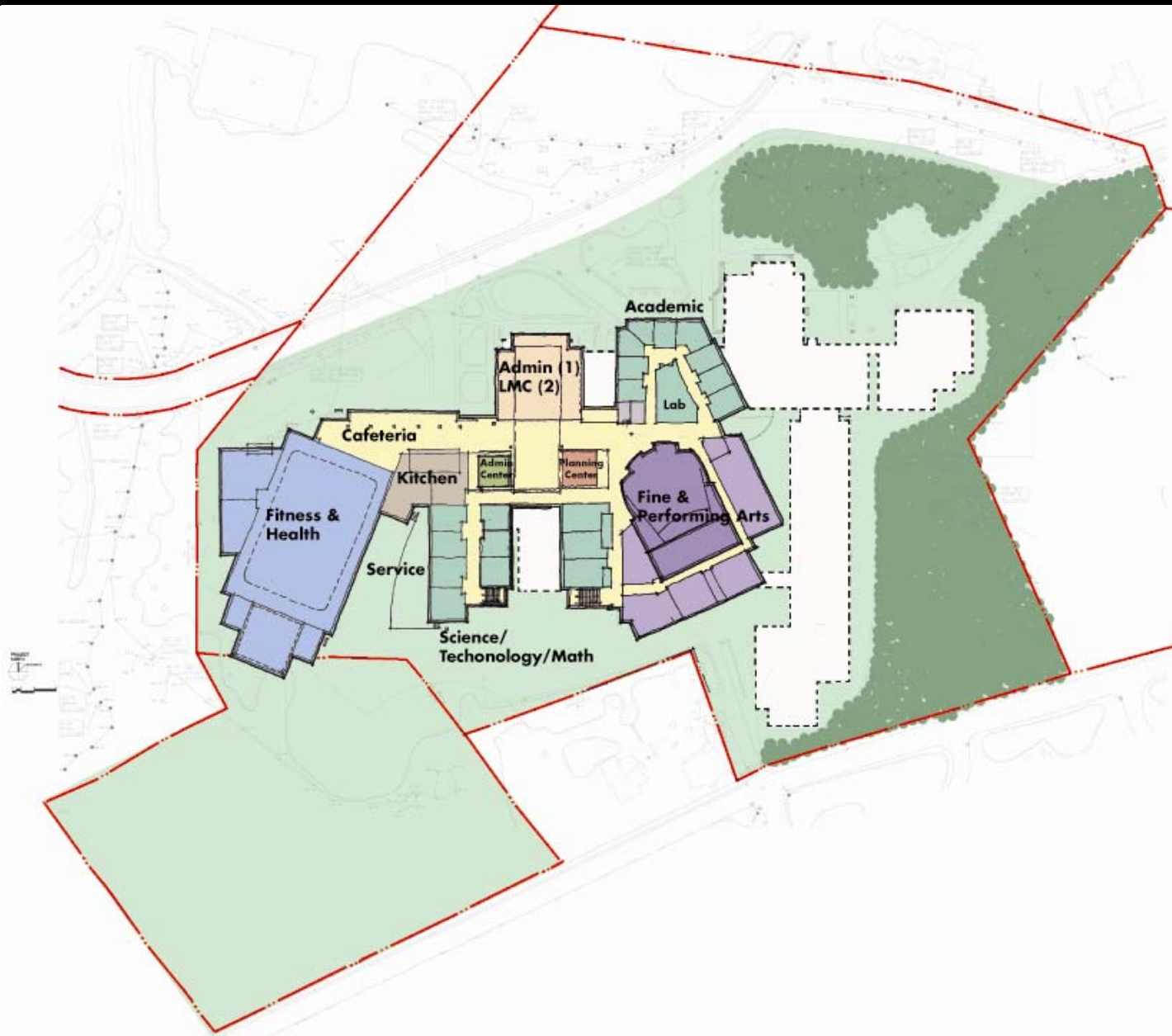
Option G: Phase 2 Demolition



Option G: Phase 3



Option G: Phase 3 Demolition



New Building Options

	OPTION				
	C	D.1	F	E.1	G
Construction Phasing Description	4 Phases (plus Initial Off-Site Gymnasium)	3 Phases	2 Phases	1 Phase	3 Phases
Construction Duration	4 years, 7 months	5 years, 4 months	4 years, 6 months	4 years	5 years, 6 months
Net Area	218,535 SF	215,215 SF	216,340 SF	216,340 SF	216,340 SF
Gross Area	335,800 SF (not including Parking Garage)	332,000 SF	316,448 SF	316,448 SF	316,448 SF
Footprint (113,220 SF Existing)	136,500 SF	131,300 SF	159,500 SF	±159,500 SF ±90,000 SF (E.1)	±159,500 SF
Parking Surface (Structure)	280 (75)	320	320	320 350 (E.1)	320

Sustainable Design for Higher Performance Schools

- Massachusetts CHPS (Collaborative for High Performance Schools)
- Sustainable Design
 - Low Cost/No Cost Strategies
 - Achieve Higher Air Quality Standards
 - Good Design Practice
 - Materials & Maintenance
 - Recycling Program
 - Functional & Flexible
 - Construction Waste Recycling
 - Energy & Resources Conservation Initiatives
 - Design Above “Code Minimum” Standards
 - Higher Efficiency Systems
 - Daylight Harvesting
 - Water Conservation Systems (Grey Water, Rainwater Harvesting, etc.)
 - Geothermal Systems (Requires Study)
 - Verify Utility Incentives
 - Site Generated Power
 - Co-Gen (Heat & Electricity)
 - PV (Photovoltaic Panels)
 - Wind Turbines
 - Wellesley is not eligible for MTC initiatives
 - Turn-Key Leased Renewable Energy Installations
 - Potential for LEED Certification

MA-CHPS Scorecard

MA-CHPS SCORECARD

This matrix includes each point that is available. Please fill in the credits you are applying for with a numerical value for a **Total Project Score**. Prerequisites in dark blue are required for all major renovation and new construction projects and those

0	Total Project Score		Total Possible Points 89	
0	Points	SITE	Possible Points	16
	—	SP 1	Joint Use of Facilities	
	—	SP 2	Joint Use of Parks	
	1	SC 1.1	Sustainable Site Selection	
	1	SC 1.2	No Development on Floodplains	
	1	SC 1.3	No Development Near Wetlands	
	1-2	SC 1.4	No Development on Greenfields	
	1	SC 1.5	Centrally Located Site/Smart Growth	
	1	SC 1.6	Reduced Building Footprint	
	1	SC 1.7	Sustainable Site and Building Layout	
	1	SC 2.1	Locate Near Public Transit	
	1	SC 2.2	Pedestrian/Bike Access	
	1	SC 2.3	Minimize Parking	
	1	SC 3	Post-Construction Stormwater Management	
	1	SC 4.1	Design to Reduce Heat Islands, Non-Roof	
	1	SC 4.2	Design to Reduce Heat Islands, Roof	
	2	SC 5	Exterior Light Pollution Reduction	
0	Points	WATER	Possible Points	5
	—	WP 1	Indoor Water Use Reduction, 20% Reduction	
	1	WC 1.1	Indoor Water Use Reduction, 30% Reduction	
	1	WC 1.2	Reduce Water Used for Sewage Conveyance	
	1	WC 2.1	No Permanent Irrigation For Landscaping	
	1	WC 2.2	Water Reduction and Sports Turf Management	
	1	WC 2.3	Irrigation System Commissioning	
0	Points	ENERGY	Possible Points	25
	—	EP 1	Elimination of CFC-based Refrigerants	
	—	EP 2	Commissioning	
	—	EP 3	Fundamental Building Systems, Training	
	—	EP 4	Exceed Energy Code by 20%, Prescriptive Approach	
	—	EP 4	Exceed Energy Code by 20%, Performance Approach	
	1-2	EC 1	Superior Energy Performance, Prescriptive Approach	
	1-10	EC 1	Superior Energy Performance, Performance Approach	
	2	EC 2	Minimize Air Conditioning	
	2-11	EC 3	Renewable Energy	
	1	EC 4.1	Energy Management Systems	
	1	EC 4.2	Submetering	
0	Points	MATERIALS	Possible Points	13
	—	MP 1	Storage & Collection of Recyclables	
	—	MP 2	Site Waste Management, 75% Diversion	
	1	MC 1	Site Waste Management, 90% Diversion	
	1-4	MC 2.1	Building Reuse, Maintain 50-95% of Existing Shell	
	1	MC 2.2	Building Reuse, Interior 50%	
	1-7	MC 3	Combined Materials Attributes	
0	Points	IEQ	Possible Points	22
	—	IEQP 1	ASHRAE Standard 62.1-2004 Compliance	
	—	IEQP 2	SMACNA IAQ Guidelines	
	—	IEQP 3	Construction IAQ, Duct Protection	
	—	IEQP 4	Pollutant Source Control, Off-gassing	
	—	IEQP 5	Walk-Off Mats	
	—	IEQP 6	Drainage	
	—	IEQP 7	Irrigation Design	
	—	IEQP 8	Mold Protection	
	—	IEQP 9	Electric Ignitions - Gas-Fired Equipment	
	—	IEQP 10	Air Intake Location	
	—	IEQP 11	Duct Liners	
	—	IEQP 12	Prohibit Fossil Fuel Burning Equipment, Indoors	
	—	IEQP 13	Filter Requirements for HVAC Equipment	
	—	IEQP 14	ASHRAE Standard 55-2004 Compliance	
	—	IEGP 15	Access to Views, 70%	
	2	IEQC 1.1	Access to Views, 90%	
	1-4	IEQC 1.2	Daylighting in Classrooms	
	1-4	IEQC 2.1	Low-Emitting Materials	
	1	IEQC 2.2	Pollutant Source Control, Ducted HVAC Returns	
	1	IEQC 2.3	Pollutant Source Control, High Efficiency Filters	
	1	IEQC 2.4	Construction IAQ, HEPA Vacuuming	
	2	IEQC 2.5	Construction IAQ, Building Flushout	
	1	IEQC 3.1	Acoustical Performance in Classrooms, Max 40 NC	
	1	IEQC 3.2	Acoustical Performance in Classrooms, Max 35 NC	
	2	IEQC 3.3	Acoustical Performance in Classrooms, Max 30 NC	
	1	IEQC 3.4	Reducing Sound Transmission	
	1	IEQC 4.1	Controllability of Systems, Operable Windows	
	1	IEQC 4.2	Controllability of Systems, Temperature/Light Control	
0	Points	POLICY & OPERATIONS	Possible Points	8
	—	P&OP 1	Maintenance Plan	
	—	P&OP 2	Anti-Idling Measures	
	1	P&OC 1	Maintenance Plan, CMMS	
	1	P&OC 2	Indoor Environmental Management Plan	
	1	P&OC 3	Energy Star Equipment Performance	
	1	P&OC 4.1	Clean Energy, 50%	
	1	P&OC 4.2	Clean Energy, 100%	
	1-3	P&OC 5	Innovation	
			Requirement for all schools	
			Requirement for green schools only	
Point Thresholds				
30 points - 1.5% Financing of Maximum Allowable Cost				
34 points - 2.0% Financing of Maximum Allowable Cost				

Point Thresholds

30 points - 1.5% Financing of Maximum Allowable Cost

34 points - 2.0% Financing of Maximum Allowable Cost

Next Steps

- Define High School and Selectmen's Property Site Constraints:
 - Wetlands Delineation
 - Flood Plain Elevation (FEMA)
 - Building Setbacks
- Analyze, Refine and Modify Primary Options
- Examine Cost Estimates of Primary Options
- Complete MSBA Supplemental Study Documentation
- Begin Work with MSBA
- Site Visits to Other New and Renovated High Schools
- Assess Private Funding Options

Wellesley High School Feasibility Concept Study

Wellesley, Massachusetts



June 7, 2007